

Statewide and County-based Phosphorus Balances for New York State

J.C. Mekken¹, S.N. Swink² and Q.M. Ketterings²

¹University of Professional Education Larenstein (Netherlands)

²Department of Crop and Soil Sciences, Cornell University



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Johan C. Mekken

Student Intern, Land and Water Management

Larenstein University of Professional Education, the Netherlands

Sheryl N. Swink

Research Aide III, Nutrient Management Spear Program

Department of Crop and Soil Sciences, Cornell University, USA

Quirine M. Ketterings

Associate Professor, Nutrient Management Spear Program

Department of Crop and Soil Sciences, Cornell University, USA

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For more information:

For more information contact Quirine M. Ketterings at the Department of Crop and Soil Sciences, Cornell University, 817 Bradfield Hall, Ithaca NY 14583, or e-mail: qmk2@cornell.edu.



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Contents

Executive Summary	1
1. Introduction.....	3
2. Materials and Methods.....	3
2.1 Overall Balance.....	3
2.2 Manure Phosphorus	4
2.3 Fertilizer Phosphorus	6
2.4 Crop Phosphorus.....	6
2.5 Data Sources	9
2.6 Study Limitations.....	10
3. Results and Discussion	12
3.1 Phosphorus Balance in 2002	13
3.2 Trends in Phosphorus Balances	20
3.3 Phosphorus Balances and Soil Fertility Status.....	24
3.4 Comparisons with Mid-Atlantic States.....	25
4. Summary and Conclusions	26
References.....	28
Appendices.....	30
Appendix A: Crop Phosphorus Content Comparison of Data Sources.	30
Appendix B: Data Sources.....	31
Appendix C: Phosphate Fertilizer Sales	33
Appendix D: County Level Fertilizer Phosphorus as % of New York State Phosphorus Sales	36
Appendix E: Selected Phosphorus Balance Assessment Data 2002.....	39
Appendix F: Total Phosphorus Balance and Phosphorus in Manure, Fertilizer, and Crops	41
Appendix G: State and County Animal, Fertilizer, and Crop Production Data and Phosphorus Estimates.....	44
Appendix H: Additional Maps.....	124
Appendix I: Phosphorus Balance for Pennsylvania Counties (Mid-Atlantic)	125

Executive Summary

- Phosphorus (P) balances for cropland (P inputs as manure and fertilizer minus P removed by harvested crops) are helpful to determine the impact of current farm and watershed management practices on the long-term sustainability of agriculture in New York State.
- The P balances for New York State and its counties were determined for 2002, 1997, 1992, and 1987 using data from the USDA Census of Agriculture (AG Census) and other data sources.
- On a statewide basis, P inputs in fertilizer and manure exceeded crop removal by +28.1 million lbs of P (+7.2 lbs P or +16.5 lbs P₂O₅ per harvested acre) in 2002. Most of the P in manure was attributed to dairy. Corn (silage and grain), hay, and alfalfa accounted for >90% of all P in crops. The most commonly used fertilizers were “10-34-0” (liquid), “11-52-0”, and “10-20-20” (mainly bulk); “15-15-15” and “19-19-19” (bags and bulk); and “7-21-7” (liquid).
- In five urban counties (Bronx, Kings, New York, Queens, and Richmond) and two Adirondack Mountain counties (Hamilton and Warren) cropland data were non-existent, mostly due to the absence of agricultural industry. No P balances (P/acre) could be derived for these counties. In addition, insufficient disclosure of crop data in the 2002 AG Census preventing us from deriving meaningful P balances for Nassau, Putnam, Rockland, and Westchester (suburban New York City counties with less than 1,250 acres of harvested cropland).
- Six counties had negative balances (Schoharie, Ulster, Essex, Schenectady, Seneca, and Albany). All other counties (45) had “positive” (excess) P balances.
- The agricultural counties with the highest P balance in 2002 were Wyoming, Ontario, Cayuga, Genesee, St. Lawrence, Onondaga, Lewis, Steuben, Madison and Chautauqua. Each of these counties had a surplus of more than +750,000 lbs of P/county. Five of these counties were also in the top 15 when P balances were expressed on a per acre harvested cropland basis. Suffolk County, adjacent to New York City, also had an excessive P balance on a per acre basis mostly reflecting P fertilizer sales.
- The amount of fertilizer P used on farms decreased from 56.6 million lbs in 1992, to 35.1 million lbs P in 1997 and 28.1 million lbs of P in 2002 and this greatly contributed to reduced overall P balances in 2002 as compared to earlier years (+16.5 lbs P₂O₅/acre in 2002 versus +20.2, +37.9 and +28.4 lbs P₂O₅/acre in 1997, 1992, and 1987, respectively). This trend suggests that producers have adjusted practices in light of shifts in soil test P levels.
- The county-based P balance/acre was poorly correlated to the percentage of soils testing high or very high in agronomic soil test P, most likely reflecting in part New York State’s diverse agriculture (dairy, vegetables, fruits etc.). Better predictions were obtained using P application per manured acre of cropland for the top ten dairy counties. For the six counties with negative P balances, the percentage of fields testing above the critical agronomic soil test P level (high or very high) ranged from 22.4% to 43.5%, below the New York State average of 47.3%.

- The overall P balance for New York was substantially lower than for the Mid-Atlantic States, most likely reflecting differences in agricultural industries among the states. In New York State, dairy farming dominates the animal industry with a fairly low state-wide animal density (0.41 animal units/acre). Delaware, Maryland, Virginia, West Virginia and Pennsylvania have a sizeable poultry and/or hog industry with limited land resources and larger feed imports resulting in higher animal densities than those observed in New York State.
 - The current statewide New York State P imbalance and the steady increase in fields testing high or very high in soil test P suggest the need for (1) better understanding of what a sustainable balance is; (2) understanding of the underlying causes of nutrient imbalances for all sectors of agriculture; and (3) economically and environmentally sound best management practices that include nutrient source reduction and/or manure nutrient export.
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*The sustainability of
dairy and livestock farms in New York State will
depend greatly on their ability to protect air and
water quality from the effects of excess nutrients.*



1. Introduction

For the sustainability of agriculture in New York State, it is important to balance both economic and environmental goals of farms, rural communities and public water resources alike.

Crop and livestock farms will be out of balance for P when more (or less) nutrients are imported to meet animal milk or meat production needs than exported in the form of farm products (Lanyon and Beegle, 1993). When the amount of P entering a field consistently exceeds P removed with harvest, this imbalance could lead to: (1) direct P loss to the environment; and/or (2) an increase in P reserves in the soil, increasing the risk for environmental losses over time (Klausner, 1995). For fields with already optimum soil fertility levels, achievement of a balance between nutrient inputs and outputs is key to minimizing the nutrient related environmental risk associated with livestock production (Koelsch and Lesoing, 1999). Similarly, when the difference between P inputs and P outputs is negative, P is being depleted from the farming system. Where large amounts of P may have accumulated, such an annual depletion might be beneficial. On the other hand, if not carefully monitored, it may result in low soil test levels over time and possible crop P deficiencies (Beegle and Lanyon, 2005).

A phosphorus balance can be derived at different scales (individual farm, county, region, watershed, state or even an entire country). Assessments of state, county, and farm nutrient balances can offer useful insights that could help identify opportunities to advance efficiency and/or productivity of the nutrient system (Fixen and Johnston, 2002). Thus, knowing the P balance on different scales can be useful to identify “areas” that need to be managed differently to lower excess P that might be a threat to surface waters and help set management goals for water quality protection and agricultural production.

The objective of this study was to evaluate the P balances for New York State and its counties at four different time points over a 15 year period (1987, 1992, 1997, and 2002). This time-line allows for initial trend assessment and careful projections into the future. Contributions of fertilizer and manure as well as P removal in crops were assessed to answer the following questions: (1) what are the current P balances for New York State and its counties?; (2) what are the biggest contributors to the P (im)balance?; (3) what shifts in P balances occurred over the 15 year period?; (4) can P balances explain soil test P levels in the counties?; and (5) how does New York compare to a similar study conducted by the Mid-Atlantic States (<http://mawaterquality.agecon.vt.edu/>)? Answers to these questions combined with a better understanding of farm-specific mass nutrient balances are useful for helping us develop best management practices that take into account farm profitability, environmental protection and the long-term sustainability of New York State agriculture.

2. Materials and Methods

2.1 Overall Balance

The P balances for New York State and 51 of its 62 counties were determined for 2002, 1997, 1992, and 1987. For the remaining eleven counties it was not possible to

develop such balances due to (1) little (<1250 acres) or no harvested cropland in 2002; and/or (2) minimal disclosure of county level crop yields.

Phosphorus balances were determined as the difference between major P inputs (manure and fertilizer) and outputs (harvested crops) following the approach developed by the Mid-Atlantic Regional Water Program (<http://mawaterquality.agecon.vt.edu/>):

$$P \text{ balance (lbs)} = \text{Manure P (lbs)} + \text{Fertilizer P (lbs)} - \text{Crop P (lbs)} \quad [1]$$

The USDA National Agricultural Statistics Service (NASS) Census of Agriculture (AG Census; http://www.nass.usda.gov/Census_of_Agriculture/index.asp) was used for production data on animal populations, crop yields and acreage, and cropland use. Fertilizer data were obtained from Commercial Fertilizer and Agricultural Liming Materials Reports of the New York State Department of Agriculture and Markets (NYSDAM) and the sales data submitted annually by NYSDAM to the Association of American Plant Food Control Officials (AAPFCO) (see Section 2.5). Data in these files were coded for farm use/non-farm use. With the exception of 1987, all files contained county-level information. The AG Census is conducted every five years for the entire United States. Data prior to 1987 were available for some but not all of the input parameters and the method of reporting was less consistent so we constricted our assessment to the period from 1987 forward.

2.2 Manure Phosphorus

New York State has a diverse animal population, both for commercial and non-commercial use. To determine the P pools in manure, the following major animal categories (with possible subcategories) were used: (1) cattle and calves (milk cows, beef cows, and other cattle and calves); (2) hogs and pigs (breeding and other); (3) poultry (layers, pullets not laying, pullet chicks, broilers, breeding turkeys, and slaughter turkeys); (4) sheep; and (5) horses.

To obtain the total amount of P in manure produced in a county, contributions of each of the animal species (cattle, beef, poultry, horses, sheep, and hogs) were summed per county. For each type of animal, the annual manure P production was calculated as follows:

$$\text{Annual manure P} = \text{inventory} * \text{P excreted} * \text{recoverable P fraction} \quad [2]$$

where inventory was the number of animals, P excreted is the amount of P in the manure (lbs of P per animal per defined production period), and recoverable P fraction is the fraction of the total manure P pool that can be managed on the farm (i.e. not deposited on pasture). Animal weights (in lbs) were included so animal units (1 animal unit equals 1000 lbs) could be determined (Table 1). The manure coefficients (average animal weight, P excreted, and recoverable manure P fraction) were considered identical for all animals in the same category. As an example, the total P production (lbs of P per year) for 1,000 milk cows and 500 beef cows was estimated as:

$$1,000 * 62.05 * 0.76 + 500 * 35.41 * 0.07 = 47,158 + 1,239 = 48,397 \text{ lbs}$$

Table 1: Average weight, P excreted, production period, and recoverable manure P fraction for each of the animal species incorporated in the statewide and county-based assessments for New York. To convert from lbs to kg, multiply by 0.454.

Animal	Type	Average weight lbs	P excreted lbs/animal per production period	Production period days	Recoverable manure P fraction
Hogs and pigs	Breeding	426 (1) (a)	9.00 (1)	365	0.79 (2) (c)
	Other	125 (1) (b)	4.33 (1)	365	0.79 (2) (c)
Cattle and calves	Milk cows and heifers (calved)	1373 (1)	62.05 (1)	365	0.76 (2) (c)
	Beef cows and heifers (calved)	1000 (3)	35.41 (1)	365	0.07 (2) (c)
	All other cattle and calves	650 (3)	20.08	365	0.85 (2) (c)
Poultry	Layers	3 (1)	0.4015 (1)	365	0.95 (2) (c)
	Hens and non-laying pullets	3 (1)	0.35 (2)	365	0.95 (2) (c)
	Pullet chicks	2.2 (2)	0.19 (2)	365	0.95 (2) (c)
	Broilers	2 (3)	0.035 (1)	48 (1)	0.97 (2) (c)
	Turkeys (slaughter)	20 (3)	0.36 (1)	133 (1)	0.97 (2) (c)
	Turkeys (breeding)	10 (3)	0.556 (1)	365	0.97 (2) (c)
	Sheep	100 (3)	2.37 (3)	365	0.49 (4)
Horses		1100 (1)	10.59 (1)	365	0.07 (2) (d)

Sources:

(1) American Society of Agricultural Engineers, 2004.

(2) Lander et al., 1998.

(3) Midwest Plan Service, 1993.

(4) Van Dyne and Gilbertson, 1978.

Notes:

(a) Weighted average of gestating and lactating sows according percent of time spent in each category.

(b) Weighted average of nursery and grow-finish pigs according to time spent in each category.

(c) Average for Mid-Atlantic States.

(d) Assumed equal to recoverable manure fraction for beef cows (grazing).

2.3 Fertilizer Phosphorus

Fertilizer data in this study are based on national and state industry sales reports (for more information, see Section 2.5). Fertilizers are sold by their guaranteed analyses (N - P₂O₅ - K₂O analysis on a percentage weight basis). The NYSDAM fertilizer sales data for the 2002 fertilizer year (July 2001 - June 2002) were analyzed to determine blends that contributed most to the total amount of P in fertilizers in 2002. The largest contributors in that year were "10-34-0" (6,122 tons P₂O₅, liquid fertilizer), "11-52-0" (5,966 tons P₂O₅), and "10-20-20" (2,955 tons P₂O₅), mainly sold in bulk quantities. Sold in both bags and bulk quantities, "15-15-15" provided 2,650 tons of P₂O₅ while "19-19-19" contributed 1,689 tons. Another large amount (1,317 tons) was sold as "7-21-7", a liquid fertilizer. Examination of 2001 and 2003 fertilizer sales showed a similar ranking of these fertilizer grades with one exception: "10-34-0" ranked 4th or 5th place as opposed to 1st.

2.4 Crop Phosphorus

The following crops accounted for the majority of the P removed from cropland in New York State: corn (silage and grain); hay (alfalfa, other, haylage and green chop); sorghum (grain and silage); barley; buckwheat; oats; wheat; soybeans; dry edible beans; and potatoes. Each crop was included in the state and county balances unless otherwise noted. Other field crops and fruits and vegetables were not included in this study because of their small contribution of total P removal in New York State. For each crop, the annual amount of P removed with harvest (P removal) was calculated as follows:

$$\text{P removal in crops} = \text{amount harvested} * \text{P removed per yield unit} \quad [3]$$

Crop coefficients, P removal per yield unit, and dry matter content were assumed equivalent for all crops of a given type for the entire period of analysis. For a small number of counties fruits and vegetables are significant crops and a table has been included in Section 3.1 to show the P balances for those counties if these crops had been included in the assessment.

Phosphorus content of each of the crops was determined after comparing four data sources (Appendix A): (1) Natural Resources Conservation Service (NRCS) Plant Database (<http://npk.nrcs.usda.gov>); (2) Dairy One feed composition library (<http://www.dairyone.com/Forage/FeedComp/mainlibrary.asp>); (3) PPI/PPIC/FAR (2002); and (4) data reported for Pennsylvania in the Mid-Atlantic study (<http://mawaterquality.agecon.vt.edu/croptable.html>). Table 2 shows the total lbs P per unit yield according to these four data sources. For most crops, differences were minimal. For the P balance assessments NRCS data were used for all crops except in four crop categories: (1) corn silage; (2) "other tame hay"; (3) "wild hay"; (4) and "haylage, grass silage, and greenchop". We used data from the Dairy One feed library for corn silage, and data used in the Pennsylvania assessment for the other three categories because (1) values reported by NRCS were considerably different from values reported by other sources (see e.g. Ketterings et al. (2005), for data on P content of corn silage in New York) and/or (2)

the Pennsylvania assessment was the only source with data (this was the case for “haylage, grass silage, and greenchop”). The final P contents per unit yield used for the state and county P balances in New York State are reported in Table 3.

Table 2: Crop P content of different sources in lbs per yield unit.

Crop	Yield unit	Weight	NRCS	Dairy One	PPI/PPIC /FAR	PA Mid-Atlantic
		lbs/unit†	P content in lbs per yield unit†			
Corn (grain)	Bushels	56	0.150	0.164	0.194	0.170
Corn (silage)	Tons	2,000	1.050	1.626	1.584	2.190
Sorghum (grain)	Bushels	56	0.180	0.176	0.330	0.260
Sorghum (silage)	Tons	2,000	2.440	2.137	-	1.310
Barley	Bushels	48	0.180	0.191	0.176	0.260
Buckwheat	Bushels	50	0.160	0.283	0.000	-
Oats	Bushels	32	0.110	0.123	0.110	0.390
Rye (grain)	Bushels	56	0.180	0.193	-	-
Wheat	Bushels	60	0.200	0.232	0.220	0.440
Soybeans	Bushels	60	0.360	0.396	0.352	0.440
Potatoes	Cwt	100	0.060	-	0.066	0.060
Dry Beans	Cwt	100	0.490	0.454	-	-
Alfalfa Hay	Tons	2,000	4.720	4.526	6.600	6.560
Small Grain Hay	Tons	2,000	4.480	4.453	-	6.560
Other Tame Hay	Tons	2,000	15.300	-	-	6.560
Wild Hay	Tons	2,000	15.300	-	-	6.560
Haylage, grass silage, greenchop	Tons	2,000	-	-	-	2.55

† To convert from lbs to kg, multiply by 0.454.

Table 3: Crop values (weight per yield unit, dry matter, and P content per yield unit) used for P removal assessment for New York State.

Crop	Yield unit	Weight	Dry matter	P content
		lbs/yield unit†	(%)	lbs/yield unit†
Corn (grain)	Bushels	56	86.70	0.150
Corn (silage)	Tons	2,000	28.40	1.626
Sorghum (grain)	Bushels	56	89.43	0.180
Sorghum (silage)	Tons	2,000	58.00	2.440
Barley	Bushels	48	88.85	0.180
Buckwheat	Bushels	50	87.90	0.160
Oats	Bushels	32	89.43	0.110
Rye (grain)	Bushels	56	88.05	0.180
Wheat	Bushels	60	89.20	0.200
Soybeans	Bushels	60	90.58	0.360
Potatoes	Cwt	100	22.28	0.060
Dry beans	Cwt	100	90.00	0.490
Alfalfa hay	Tons	2,000	90.35	4.720
Small grain hay	Tons	2,000	80.00	4.480
Other tame hay	Tons	2,000	90.00	6.560
Wild hay	Tons	2,000	90.00	6.560
Haylage, grass silage, greenchop	Tons	2,000	35.00	2.55

† To convert from lbs to kg, multiply by 0.454.

2.5 Data Sources

2.5.1 Animal and Crop

Each year the USDA NASS conducts hundreds of surveys and prepares reports covering virtually every facet of US agriculture: production and supplies of food and fiber, prices paid and received by farmers, farm labor and wages, etc. (<http://www.nass.usda.gov/ny/index.htm>). Data sources used for the animal and crop components of the state and county P balances were: (1) 1987: US Department of Commerce, 1987; (2) 1992: US Department of Commerce, 1994; (3) 1997: US Department of Agriculture, 1999; and (4) 2002: US Department of Agriculture, 2004. Appendix B shows the steps taken to retrieve the necessary data from the different sources.

In our assessment we used the AG Census data as published for each of the four Census years. In an effort to be more comprehensive, the 2002 AG Census (source 4) introduced a new methodology that affected comparability of our calculations of animal P, crop P, and harvested acres cropland for 2002 with those calculated using data from 1987, 1992 and 1997. The 2002 AG Census included an adjustment of 1997 AG Census data. The comparison of the originally reported and adjusted data for 1997 suggested a slight decrease in the animal P component, a small increase in the crop P component, and consequently, an adjusted P balance that would be about 3% lower than the one derived based on the actually reported 1997 AG Census. This suggests that the 2002 balance in this report (based on 2002 AG Census data), is about 3% lower than we would have reported if the same methodology had been used in 2002 as was used in previous years. It will become clear that the overall effect of the change in methodology is so small that it does not significantly alter the trends observed in this study.

2.5.2 Fertilizer

For the fertilizer assessment both AG Census data and NYSDAM annual fertilizer sales data were used. The AG Census provided the number of acres of harvested cropland used in the calculation of the P balance/acre, as well as information on the number of acres that had received fertilizer and/or manure. Fertilizer sales data collected by NYSDAM were used to calculate the amount of fertilizer P used on farms at state and county levels.

Sales of fertilizer for non-farm use are a significant part of total fertilizer sales in New York (16% in 2002) so to separate non-farm fertilizer use from farm-use, county-based data that included intended use were needed. The NYSDAM Annual Commercial Fertilizer and Agricultural Liming Materials Reports do not separate farm use from non-farm use on a county basis; however, fertilizer use data were reported and entered in NYSDAM's data files archived with the Association of American Plant Food Control Officials (AAPFCO; <http://www.aapfco.org/>) for 1996-2005, and in the national data files for 1992. Copies of these files for New York State, along with the file for 1987 (without county and use codes) were obtained for use in this analysis.

Fertilizer P sales at state and county levels were calculated directly from the data for 1992 and the years 1996 through 2005 (Appendix C). Fertilizer, county and use codes were used to sort data in each of the annual sales files. The files contained fields for

county code, fertilizer code, fertilizer grade (N, P₂O₅, and K₂O), quantity sold (tons), and use code (farm/non-farm).

Some serious anomalies were apparent in the data for 1992 and 2002 at the county level as compared to surrounding years. In 1992, one of the first years for which reporting of sales was done at the county level, tonnages reported for some counties were much higher or lower (by orders of magnitude) than what was reported across later years (e.g., Cattaraugus, Erie, Essex, Franklin, Fulton, Genesee, Hamilton, Kings, Monroe, Nassau, New York, Orleans, Otsego, Rensselaer, Suffolk, Sullivan, Warren, Washington, Wayne and Wyoming). This is likely due to errors in attribution of fertilizer sales during the first county-based reporting years (no county level detail was required or reported in New York State in 1987). Also, major transitions took place in the fertilizer industry in New York State around 2001-2002 which may have contributed to anomalies in fertilizer sales data in 2002 (July 2001-June 2002 sales) as can be seen in Appendix C. Particularly suspect were the sales reported for Bronx, Delaware, Essex, Fulton, Genesee, Madison, Onondaga, and “unknown” counties.

Due to these problems with fertilizer sales data for 1987, 1992 and 2002, we decided not to use the data for those years in the P balance assessment. For 1987 and 1992 fertilizer P data, the percentage of farm use for mixed (81%) and for direct application materials (91%) reported in the 1986 NYSDAM Fertilizer and Lime Tonnage Report were applied to the corresponding 1987 fertilizer sales data obtained from AAPFCO. This allowed us to calculate the approximate total amount of P sold for farm use in 1987. In 1992, farm use data were identified and this information was used to calculate the total amount of fertilizer P sold for farm use in New York State that year. To estimate use of fertilizer P at the county level for 1987 and 1992, for each county the percent of the total amount of P fertilizer used in the state was determined for the period 1996 through 1999. This comparison showed that for each of the individual counties the percentage farm versus non-farm use remained fairly constant (Appendix D) so the percent of state total P for each county was averaged over the 4-year period (1996-1999) and used with the total amount of fertilizer P sold for farm use in 1987 and 1992 (as determined above) to calculate fertilizer P use for each of the counties in 1987 and 1992.

Similarly, given the anomalies in 2002 fertilizer sales data mentioned above, we averaged the sales for the 4 years surrounding 2002 (2000, 2001, 2003, and 2004). This 4-year average (Appendix D) was used as a proxy for 2002 in the tables, charts and maps in this study.

2.6 Study Limitations

The P balances were developed to quantify P accumulation statewide and on a county basis and to derive general trends in cropland P loadings over time in New York. These balances are partial balances because of the inability to accurately determine all P inputs and outputs for cropland. Furthermore, these balances should not be equated to annual P losses. A higher P balances may indicate greater P loss potential but actual P losses will depend on within-farm distribution of excess P, landscape patterns, soil resources and management, climate or weather patterns, etc.

As pointed out in the Nutrient Budgets for the Mid-Atlantic States (Mid-Atlantic Regional Water Program: <http://mawaterquality.agecon.vt.edu/default.html>), the balances themselves are derived using numerous assumptions and the following limitations should be considered regarding the balances:

- The AG Census did not publish animal or crop data for some counties to avoid disclosure of information about individual farm operations. Undisclosed data were counted as zeros but this reduces the accuracy of county-based balance data. The majority of data was undisclosed for a few counties with little harvested cropland (<1250 acres); it was not possible to determine P balances for these counties.
- Fertilizer sold in one county does not necessarily get applied to fields in the same county and this could reduce accuracy of county-based fertilizer use data and the overall P balances. This might especially be the case for urban counties.
- For our P balances, only fertilizer sales data labeled for farm use were included. As mentioned before, non-farm fertilizer use is a significant fraction of total fertilizer use in New York State (ranging from ~10 to 17% over the years analyzed). However, errors in attribution of use may have occurred (fertilizer labeled for non-farm use might actually be used on farms or visa versa). We assume these discrepancies to be relatively insignificant given the size of New York State's agricultural industry but nevertheless, labeling of fertilizer use might have resulted in over- or underestimation of the true amount of fertilizer used on cropland.
- Most but not all of the fertilizer sold in a year is applied to cropland during that same year. In our balances, stocked fertilizer from previous years was not accounted for as such data were not available.
- Fertilizer data used in the assessment came from national and state industry sales reports because the AG Census did not report the necessary data. The use of different data sources may have introduced additional variability in the data.
- Heifers, steers, bulls and calves were grouped into the category "All other cattle & calves" to maintain consistency in cattle and calf groups with the Mid Atlantic Region assessment and consistency over the period of analysis. The average weights and amounts of P excreted by "All other cattle and calves" are those of steers and bulls and the recoverable manure P fraction is that one of feeder cattle. Separating these categories would give a more accurate value of the overall balance but the AG Census does not include such data.
- Manure and fertilizer transfers among states and counties were not considered. Estimates of such nutrient transfers should be incorporated into balance assessments but such data were not available either.
- Only recoverable manure nutrients were considered in the balances. Other manure nutrients (such as those produced by grazing animals on pasture) were assumed unavailable for management. However, these nutrients may still have an effect on water quality.
- Although the animal and crop data are from the AG Census, year-to-year comparisons may be complicated by changes in data collection methods over time. Some of these changes in crop and animal data were discussed previously.
- Manure coefficients and crop coefficients were assumed constant over the years and counties to simplify balance calculations. Such assumptions are not necessarily

accurate but this was considered a practical starting point because more detailed information is not typically available.

- Each year's nutrient balance is a snapshot that is not necessarily representative of nearby years. Weather-related variations in year-to-year crop yields were not considered because of lack of data.
- Only the major crops and animal species for New York State were included in the balances. In some cases a crop might be important in one or a few counties but not in any of the others and thus not occur in the overall assessment. This could change the county-based balance, depending on the acreage of the crop and the amount of P represented in the harvest of such a crop. For example, in Oswego, Orange, Orleans, and Suffolk counties, inclusion of fruit and vegetable crop P would significantly reduce the P balances for those counties (see Table 4 in Section 3.1.2). Also, some of the smaller acreage crops may not have a reported production in each of the four years.



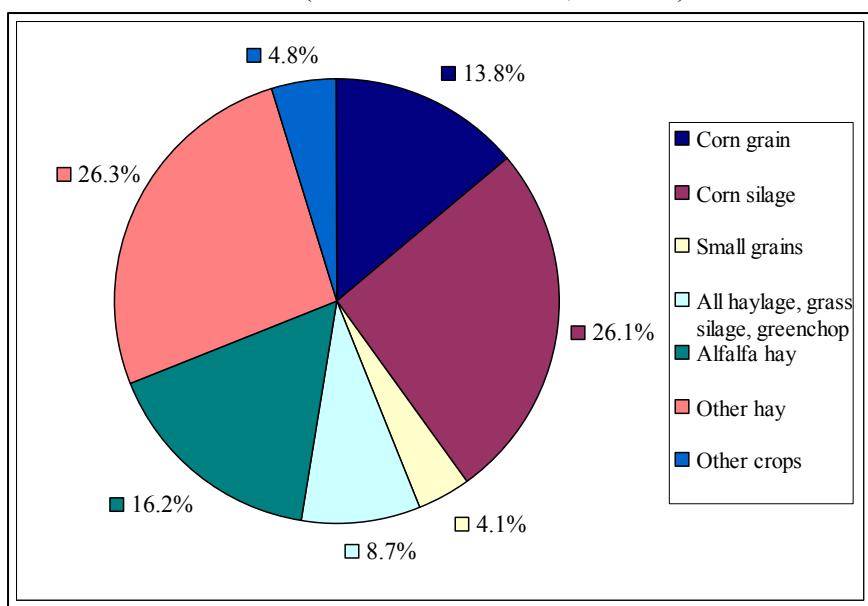
3. Results and Discussion

Appendix E contains the P balance data for the year 2002 for 51 counties in New York State. In Appendix F balances and the amounts of P attributable to manure, fertilizer, and crops for 1987, 1992, 1997, and 2002 are shown at the county level, organized by NRCS-regions. Complete data sets for all four years can be found in Appendix G. Maps showing county names and NRCS regions for New York State can be found in Appendix H.

3.1 Phosphorus Balance in 2002

3.1.1 New York State

The total amount of harvested cropland was 3.8 million acres and there were 1.6 million animal units (1 animal unit = 1,000 lbs) in 2002. Manure and fertilizer P accounted for 46.0 and 28.1 million lbs of P, respectively, while the amount of P in harvested crops was estimated at 46.5 million lbs of P. This resulted in a total P balance for New York of +27.6 million lbs of P (+7.2 lbs P or +16.5 lbs P₂O₅ per acre).



This resulted in a total P balance for New York of +27.6 million lbs of P (+7.2 lbs P or +16.5 lbs P₂O₅ per acre). The distribution of crop contained P over the different crops is shown in Figure 1. The category listed as “All haylage, grass silage, greenchop” includes grass, alfalfa-grass, and alfalfa haylage and silage, as data were not collected separately for grass and alfalfa/alfalfa grass mixtures. The category “Other hay” includes small grain hay, wild hay, and other tame hay while “Other crops” contains soybeans, potatoes, sorghum, and dry edible beans. It is obvious that “Other hay” (26.3%), corn silage (26.2%), and alfalfa hay (16.2%) are major crops in New York State. Corn (silage and grain), alfalfa hay, other hay and all haylage, grass silage and greenchop represent >90% (~5% less if fruit and vegetable crops are taken into account) of the total amount of P in harvested crops.

Figure 1: Contribution of different crops to the total amount of P in harvested crops in New York State in 2002.

The total amount of P represented in animal manure in 2002 amounted to 46.0 million lbs of P (Figure 2). The category listed as “Cattle” was the main contributor with

43.8 million lbs of P and within this category, milking cows generated 31.6 million lbs of P (Figure 3).

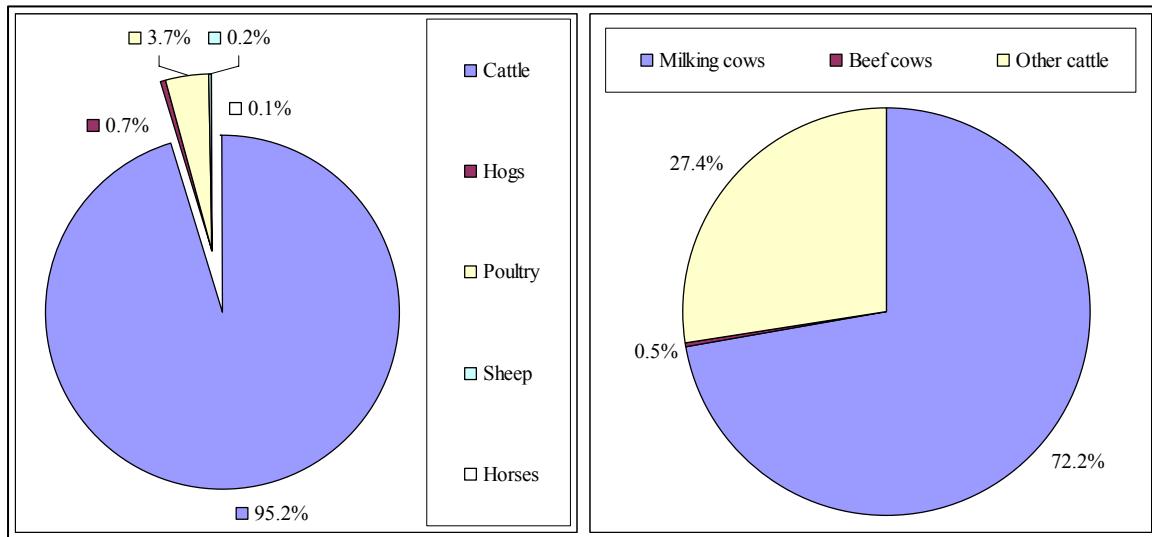


Figure 2: Total amount of P in manure in 2002 by animal type.

Figure 3: Phosphorus distribution within the AG Census category “Cattle”.

3.1.2 Counties of New York

For the year 2002, 45 of the county-based P balances were “positive”, i.e. P in the form of manure and fertilizer exceeded P in crop removal while the P balances for six

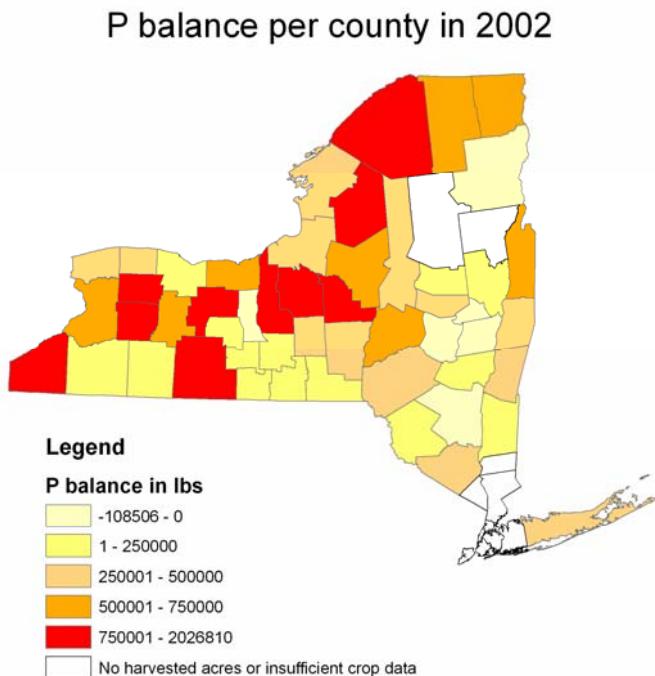


Figure 4: Total P balance for New York State counties in 2002.

counties were negative (Figure 4). Counties with a negative P balance were Schoharie (-109,000 lbs of P), Ulster (-68,000 lbs of P), Essex (-40,000 lbs of P), Schenectady (-19,000 lbs of P), Seneca (-4,000 lbs of P), and Albany (-2,000 lbs of P). The highest total P balance per acre harvested cropland was in Suffolk County (+15.7 lbs P/acre; +36.1 lbs P₂O₅/acre). It would be somewhat lower (~+12 lbs P/acre) if crop P data for fruits and vegetables had been included in this assessment (see Table 4). The high fertilizer sales for this county may also reflect high P fertilizer application rates for high value crops (vegetables etc.), reporting of fertilizer sold to dealers who

distribute the fertilizer to other counties, reporting of fertilizer for farm use instead of non-farm use, and/or other inconsistencies in reports of fertilizer sales.

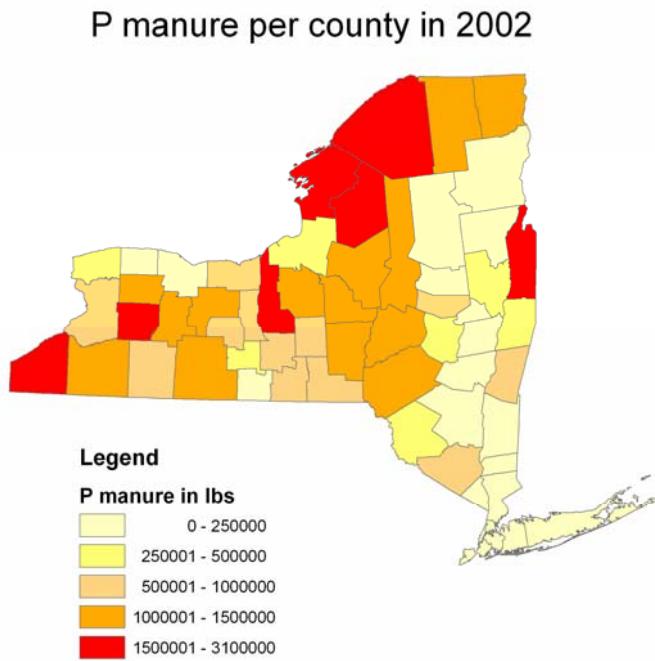


Figure 5: Manure P for New York State counties in 2002.

Wyoming is the top-ranked “dairy” county and has a P imbalance of +2.0 million lbs of P (+15.2 lbs P/acre or +35.0 lbs P₂O₅/acre) followed by Ontario, Cayuga, Genesee, St. Lawrence, Onondaga, Lewis, and Steuben with respectively +1.7, +1.7, +1.5, +0.94, +0.87, +0.86 and +0.84 million lbs of P. Wyoming (3.1 million lbs of P), St. Lawrence (2.4 million lbs of P), Jefferson (2.1 million lbs of P), Cayuga (1.9 million lbs of P), Washington (1.6 million lbs of P), Lewis (1.6 million lbs of P), and Chautauqua (with 1.5 million lbs of P) are counties with the highest total amounts of manure P (Figure 5).

Wyoming, St. Lawrence, Jefferson, Cayuga, Washington, Chautauqua, Steuben, Lewis, and Oneida are the counties with the highest number of animal units/county (with respectively 99.3, 81.5, 70.6, 62.0, 55.3, 54.6, 54.4, 52.6, and 50.2 thousand animal units/county) (Figure 6).

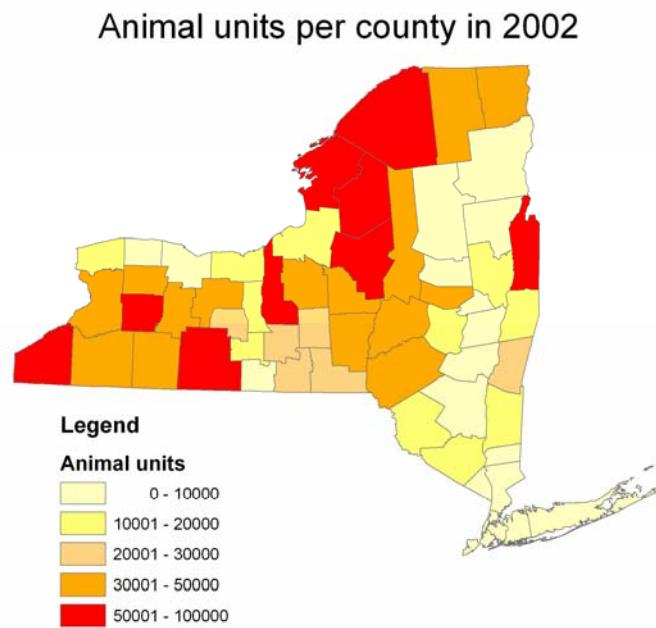


Figure 6: Animal units (AU) for New York State counties in 2002.

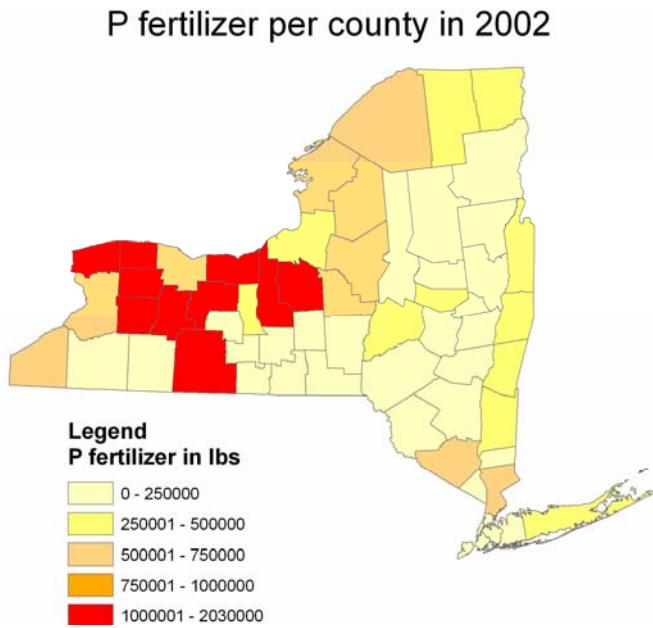


Figure 7: Fertilizer P for New York State counties in 2002.

The amount of fertilizer P registered for each county in 2002 is shown in Figure 7. The counties with a fertilizer P input equal to or greater than 1 million lbs of P were Ontario (2.0 million lbs P), Cayuga (1.8 million lbs P), Genesee (1.6 million lbs P), Steuben (1.4 million lbs P), Livingston (1.2 million lbs P), Wyoming (1.1 million lbs P), Niagara (1.1 million lbs P), Onondaga (1.1 million lbs P), Orleans (1.0 million lbs P), and Wayne (1.0 million lbs P). All these counties are located in the southwest, western, and central regions of New York State where both dairy and vegetable and fruit farming are predominant.

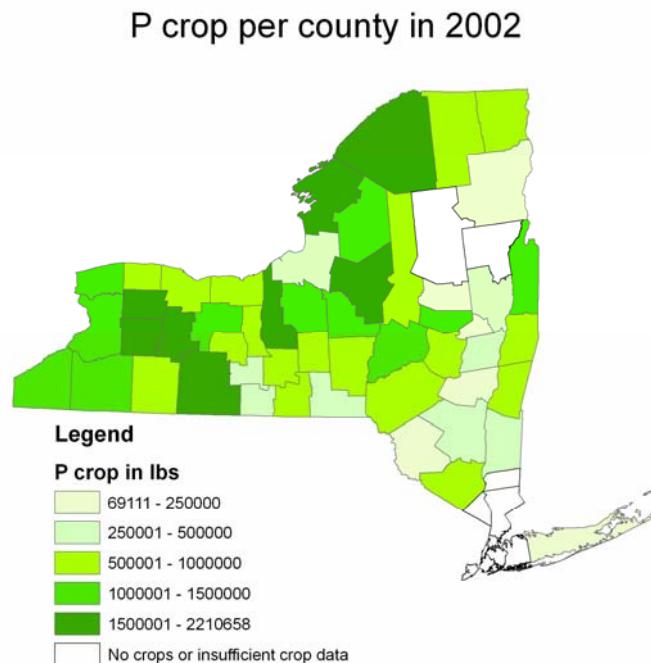


Figure 8: Phosphorus removal by crops for New York State counties in 2002.

A more intuitive indicator of P balances at the farm scale is obtained when the total amounts of P in manure, fertilizer, and harvested crops are divided by the acres of harvested cropland. In five urban counties (Bronx, Kings, New York, Queens, and Richmond) and two Adirondack Mountain counties (Hamilton and Warren) cropland data were non-existent, mostly due to the absence of agricultural industry. No P balances are included for these counties. As mentioned earlier, insufficient crop data was disclosed in

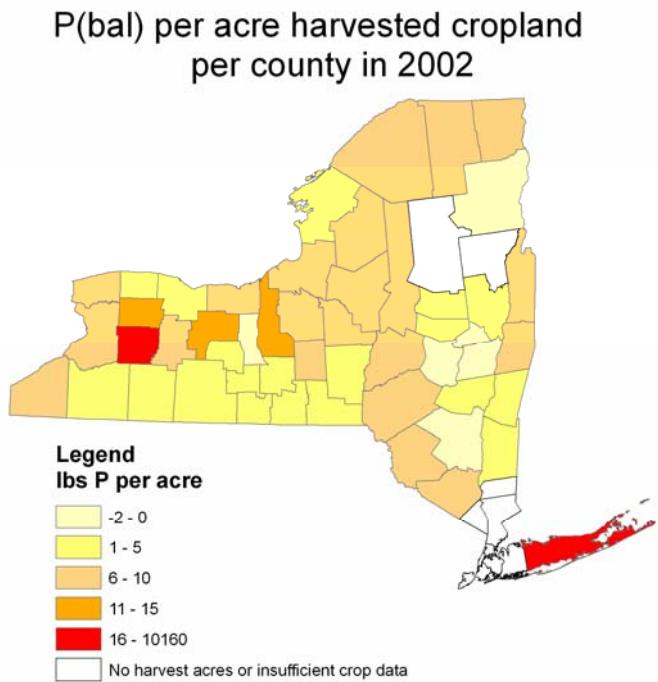


Figure 9: P balance per acre harvested cropland for New York counties in 2002.

without inclusion of fruit and vegetable crops P for counties where there would be a greater than 1 lb/acre change due to fruit and vegetable crop removal of P. Phosphorus balances for Orange, Oswego, Suffolk and Orleans counties are most affected by not including fruit and vegetable crop P. The 2002 New York State balance would be +6.6 lbs P/acre rather than +7.2 lbs P/acre if fruits and vegetables were included (Table 4).

Table 4: 2002 New York State county P balances most impacted by fruit and vegetable crop P removal (ΔP balance/harvested acre cropland > 1.0 lb/acre) and effect of inclusion of fruit and vegetable crop P on total New York State P balance.

	2002 P balance without fruit and vegetable crop P		Estimated 2002 P balance with fruit and vegetable crop P†		ΔP balance/acre
	lbs P	lbs P/acre	lbs P	lbs P/acre	lbs P
Orange	465,298	8.5	18,359	0.3	8.2
Oswego	387,040	9.3	127,087	3.0	6.2
Suffolk	341,646	15.7	263,141	12.1	3.6
Orleans	375,181	4.1	63,717	0.7	3.4
Genesee	1,471,174	11.7	1,237,513	9.9	1.9
Wayne	575,136	5.8	427,710	4.3	1.5
Monroe	237,280	3.6	136,022	2.0	1.5
Ulster	-67,897	-2.2	-111,470	-3.5	1.4
Niagara	493,989	5.2	409,542	4.3	0.9
NY State	27,570,462	7.2	25,186,836	6.6	0.6

† Calculations are based on 2002 AG Census data. Crop coefficients and yields/acre utilized for fruits and vegetables are as reported in the study conducted by the Mid Atlantic Regional Water Program (<http://mawaterquality.agecon.vt.edu/default.html>).

the 2002 AG Census to determine meaningful P balances for the four suburban New York City counties with less than 1,250 acres of harvested cropland: Nassau, Putnam, Rockland, and Westchester. Neighboring Suffolk County, with almost 22,000 acres of harvested cropland, had the highest P balance per acre with 15.7 lbs P/acre. However, this balance does not include crop removal P for fruits and vegetables, which accounted for about 8,000 or 37% of the harvested acres in Suffolk County in 2002. Inclusion of P removal for these crops would reduce the P balance for Suffolk to approximately +12.2 lbs P/acre (28.1 lbs P₂O₅/acre). Table 4 shows P balances with and

The overall P balance in Wyoming was second highest for the state at +15.2 lbs P/acre (+35.0 lbs P₂O₅/acre). This was the only dairy industry dominated county with a P balance greater than >+15.0 lbs P/acre. Three other dairy-dominated counties were in the second highest category: Ontario (+14.1 lbs P/acre; +32.4 lbs P₂O₅/acre), Genesee (+11.7 lbs P/acre; +26.9 lbs P₂O₅/acre), and Cayuga (+10.7 lbs P/acre; +24.6 lbs P₂O₅/acre). Excluding fertilizer P, manure P and cropland acreage from the nine urban and two Adirondack counties from the state average, the P imbalance for New York State was +6.5 lbs P/acre (+15.0 lbs P₂O₅/acre). This would be closer to +5.0 lbs P/acre (+11.5 lbs P₂O₅/acre) if fruit and vegetable P had been accounted for.

The 2002 AG Census has, in contrast to earlier AG Census years, data on the number of acres on which fertilizer and manure were applied. Thus, for 2002, it was possible to estimate use of the two P inputs individually relative to acres of harvested cropland. In 2002, harvested cropland amounted to about 3.85 million acres, while the P inputs were 28.1 and 46.0 million lbs P for fertilizer and manure, respectively. Fertilizer was applied to an estimated 2.2 million acres (about 4% of this was pastureland and rangeland), while manure was applied to about 1.2 million acres.

It is not possible to determine from the AG Census data if some acres received both fertilizer and manure but it is clear from Figures 10 and 11 that not all cropland in New York State received P in 2002. The average for New York State (without the 9 urban and 2 Adirondack counties with no or little cropland) was 12.3 lbs fertilizer P per acre (28.3 lbs P₂O₅/acre).

Nassau, Westchester, Putnam, and Rockland, with only 140-1,100 acres of fertilized cropland, had the highest P fertilizer use per acre with respectively 744, 545, 101 and 90 lbs P/acre fertilized. The high fertilizer sales for several of these counties may include reporting of fertilizer sold to dealers who distribute the fertilizer to other counties, reporting of fertilizer for farm use instead of non-farm use, inconsistencies in reports of fertilizer sales and/or high P fertilizer application rates for high value crops (vegetables etc.). Other counties with high average fertilizer P application rates were Rensselaer (24.8 lbs P/acre), Oswego (23.0 lbs P/acre), and Suffolk (22.1 lbs P/acre).

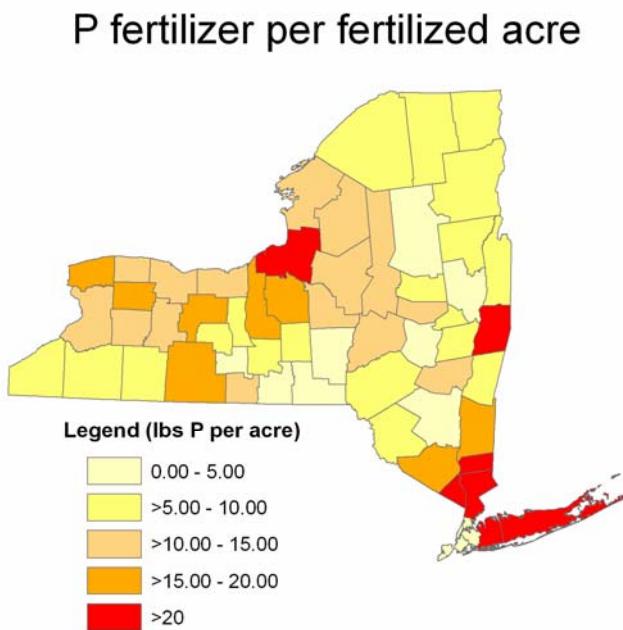


Figure 10: Fertilizer P per acre fertilized cropland in New York State counties in 2002.

The counties with the highest amount of P from manure per acre of manured cropland were Monroe (63.9 lbs P/acre), Allegany (63.2 lbs P/acre), Cortland (57.0 lbs P/acre), Rensselaer (56.9 lbs P/acre), Cayuga (49.8 lbs P/acre), Schuyler (48.9 lbs P/acre), Washington (48.6 lbs P/acre), Genesee (48.4 lbs P/acre), Wyoming (47.3 lbs P/acre), and Wayne (45.7 lbs P/acre). The average for all of New York State was 38.4 lbs of P (88 lbs P₂O₅) per manured acre (5,500 gallons/acre if we assume an average P content of manure of 7 lbs P per 1,000 gallons).

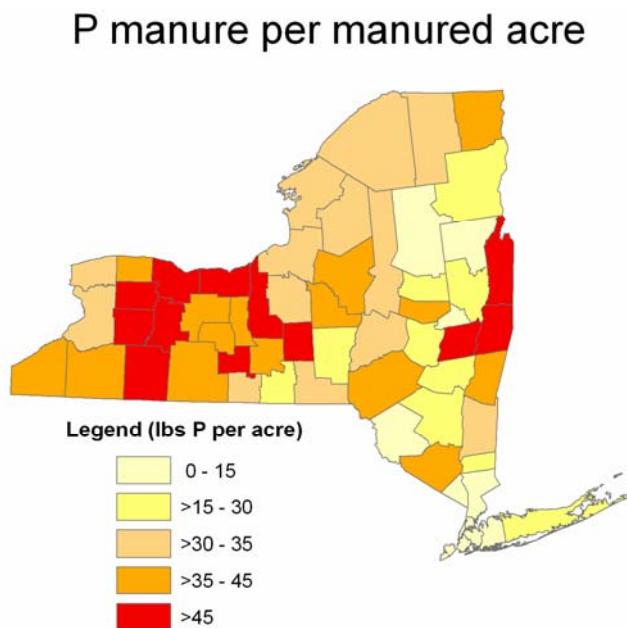


Figure 11: P applied with manure per acre manured cropland for New York counties in 2002.

balances are needed to see if such relationships represent individual farm practices or distribution challenges within the counties.

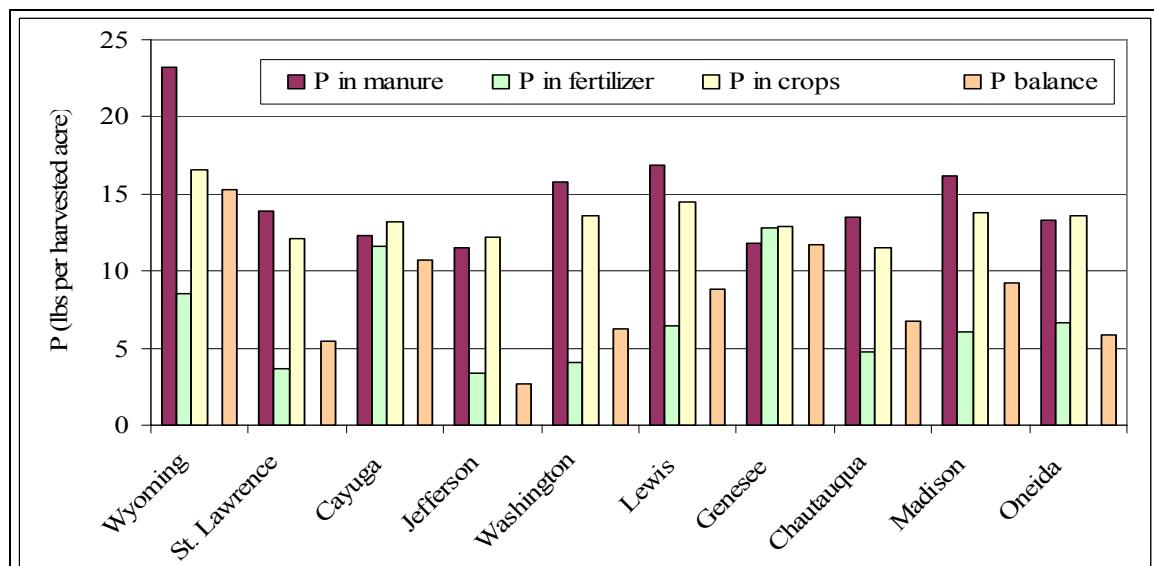


Figure 12: Phosphorus in lbs P per harvested acre (multiply by 2.3 to obtain lbs P₂O₅/acre) in manure, fertilizer, and crop removal for the top ten milk producing counties in New York in 2002.

3.2 Trends in Phosphorus Balances

3.2.1 State Phosphorus Balance

The state P balance for New York was “positive” for each of the four years studied but substantially decreased over the past ten years. As shown in Figure 13, the total P balance was +49.9 million lbs P in 1987, increased to +58.3 in 1992, decreased to +33.8 million lbs in 1997 and to +27.6 million lbs of P in 2002. The amount of P in manure decreased from 49.8 million lbs P in 1987 to 44.6 and 44.8 million lbs P in 1992 and 1997, respectively, followed by an increase (to 46.0 million lbs P) in 2002. The amount of fertilizer P used on farms increased from 48.8 million lbs of P in 1987 to 56.6 million lbs in 1992, decreased substantially (to 35.1 million lbs P) in 1997 and again in 2002 (to 28.1 million lbs of P). Phosphorus removal with harvested crops decreased from 48.8 million lbs of P in 1987 to 42.9 million lbs in 1992, followed by an increase to 46.1 and 46.5 million lbs of P in 1997 and 2002, respectively. Thus, the ratio of P in manure to P in crops were 1.02, 1.04, 0.97, and 0.99, for 1987, 1992, 1997 and 2002, respectively, indicating overall state-wide balances in P in manure and cropland.

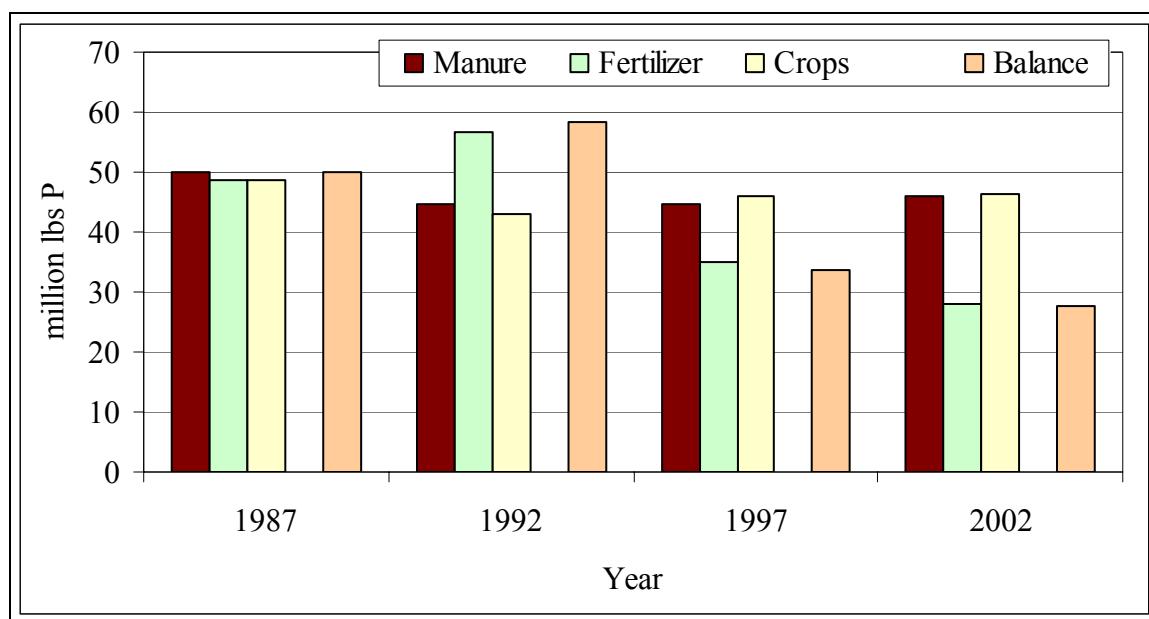


Figure 13: Total amount of P in manure, in fertilizer, and crop removal, as well as the P balance (in million lbs of P) for AG Census years 1987, 1992, 1997, and 2002 for New York State.

The comparison of the four AG Census years shows a trend towards lower P balances and fewer counties with exceptionally high (excess) P balances over time. In 1987, 20 counties had a county-based P balance greater than one million lbs. One of these counties had a P balance greater than +3 million lbs while three others had balances greater than 2.5 million lbs of P. In 1992, 21 counties had P balances greater than +1 million lbs P/county. Four of these had over +3 million lbs P/county while two others had more than +2 million lbs P/county. In contrast, in 1997 only 8 counties had P balances greater than +1 million lbs, none had balances over +3 million lbs and only 3 counties

had balances over +2 million lbs of P. In 2002 there were even fewer counties with exceptionally high P balances; only four counties (Wyoming, Ontario, Cayuga, and Genesee counties) had a P balance value over +1 million lbs and of these, only one had a P balance over +2 million lbs (Wyoming county). Table 5 displays the ten counties with the greatest P imbalances in lbs of P per county for the 4 different years. The years 1987, 1992, 1997, and 2002 had two, three, six, and six counties with a “negative” P balance, respectively. Only two counties, Albany and Schenectady had negative balances in all four years.

Over the period 1987-2002, the P balances per harvested acre of cropland for New York State (all counties included, fruit and vegetables excluded) were +12.8, +16.5, +8.8, and +7.2 lbs P/acre (+29.4, +37.9, +20.2, +16.5 lbs P₂O₅/acre) for 1987, 1992, 1997, and 2002, respectively. This comparison suggests that the P surplus expressed as P balance per harvested acre of cropland has decreased by about 50% in the most recent years of this analysis (1997 and 2002), compared to 1987 and 1992, suggesting that producers have adjusted practices in light of shifts in soil test P levels. As discussed in Section 2.5, due to changes in the AG Census methodology in 2002, the balance calculated for 2002 in this study may be about 3% lower than would have been reported if the AG Census methodology had remained the same over all four Census years. This change is too small to impact the overall downward trend over the past 10 years.

Table 5: Ten New York State counties with the highest “positive” P balances for 1987, 1992, 1997, and 2002.

1987		1992		1997		2002	
County	lbs P†	County	lbs P†	County	lbs P†	County	lbs P†
Genesee	3,291,736	Genesee	3,976,822	Wyoming	2,739,028	Wyoming	2,026,810
Ontario	2,862,729	Ontario	3,567,340	Ontario	2,158,673	Ontario	1,712,024
Cayuga	2,759,269	Cayuga	3,482,404	Steuben	2,034,214	Cayuga	1,660,679
Wyoming	2,699,228	Wyoming	3,439,766	Cayuga	1,954,321	Genesee	1,471,174
Steuben	1,993,070	Steuben	2,492,536	Genesee	1,941,081	St. Lawrence	938,872
Onondaga	1,772,923	Orleans	2,007,095	Lewis	1,201,212	Onondaga	865,055
Suffolk	1,720,628	Onondaga	1,964,006	Chautauqua	1,108,421	Lewis	862,743
Wayne	1,580,327	Wayne	1,962,886	Niagara	1,000,191	Steuben	837,114
Orleans	1,534,666	Suffolk	1,842,976	St. Lawrence	957,415	Madison	790,832
St. Lawrence	1,461,849	Niagara	1,807,856	Washington	888,038	Chautauqua	781,728

† To convert from lbs to kg, multiply by 0.454. To convert from lbs P to P₂O₅, multiply by 2.3.

3.2.2 Phosphorus in Manure

Animal units (AU, representing 1,000 lbs of weight of any animal) are commonly used to quantify farm size. For 1987, New York State counted about 1.68 million animal units. This was 1.51 million in 1992, 1.52 million in 1997, and 1.58 million AU in 2002. As mentioned above, the total amount of P in manure was 49.8 million lbs P in 1987, 44.6 million lbs of P in 1992, 44.8 million lbs of P in 1997, and 46.0 million lbs of P in 2002. The contribution of cattle was 98% in 1987 and 1992 and 95% in 1997 and 2002. The decrease in manure P between 1987 and 1992 is mainly due to a decline in total amount of manure P represented by milking cows (Figure 14).

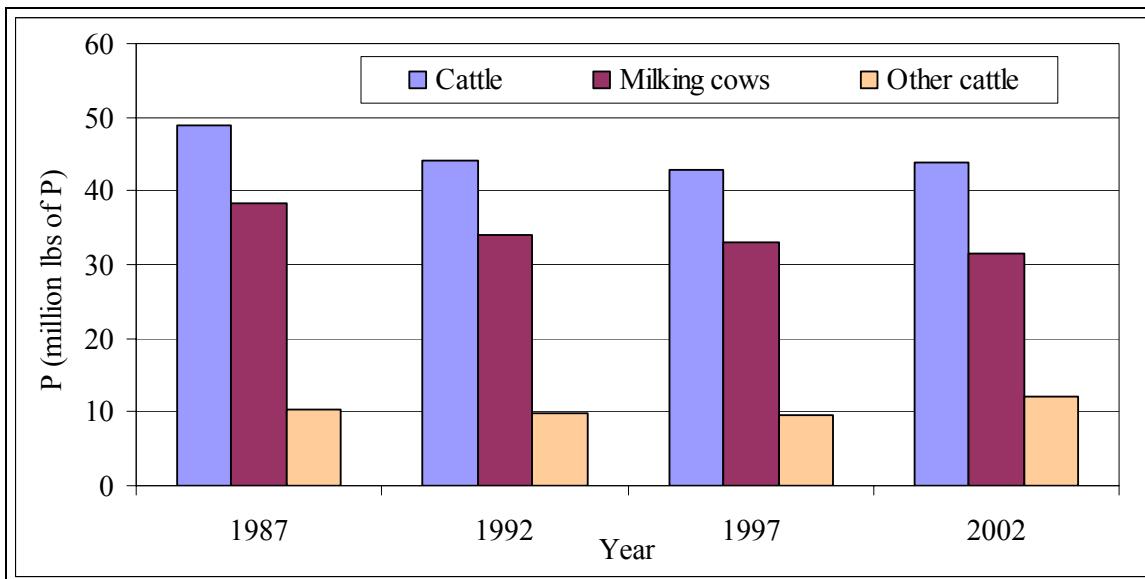


Figure 14: Phosphorus generated by cattle separated by milking cows and other cattle in New York State for the years 1987, 1992, 1997, and 2002.

3.2.3 Phosphorus in Harvested Crops

Figure 15 shows the amount of P in lbs removed while Figure 16 shows the contribution (percentage) of P by crop type to the total amount of crop removal P for New York State in 1987, 1992, 1997, and 2002. As crop harvests (and thus crop P removal) can vary greatly from year to year depending on the growing conditions in a given year, trends observed by looking at the 5-year sampling points of the AG Census should be treated cautiously as those years may not be representative of the intervening years.

The P removal by crops was 48.8 million lbs of P in 1987, 42.9 million lbs of P in 1992, 46.1 and 46.5 million lbs of P for 1997 and 2002, respectively. The annual New York State agricultural statistics reports indicate that this variation does not reflect a trend over time and is most likely due to the effects of annual variations in weather.

Corn silage, the largest contributor to P removal each of the years, accounted for 25% of P removed in 1987, increasing to 27% in 1992, and 29% in 1997. In 2002 the share removed by corn silage was slightly lower (26%). Corn grain, while also a major contributor to P removal at 20% in 1987, did not show the same trends. Its contribution to total crop removal P was 17% in 1992, 20% in 1997 and 14% in 2002. The other major crop types are alfalfa hay and other hay (small grain hay, wild hay, and other tame hay). The most notable decline over the years occurred in alfalfa dry hay production (Figure 16). The category of haylage, grass silage and greenchop has increased notably 1997 and 2002. This category includes alfalfa haylage and silage which was not broken out as a subcategory until the 2002 AG Census. In 2002 alfalfa and alfalfa grass mixes accounted for 3.1 million tons out of a total of 4.5 million tons of all haylage, grass silage and greenchop in New York State. The decline in alfalfa dry hay production may reflect increased harvest of alfalfa fields for haylage and grass silage instead of dry hay.

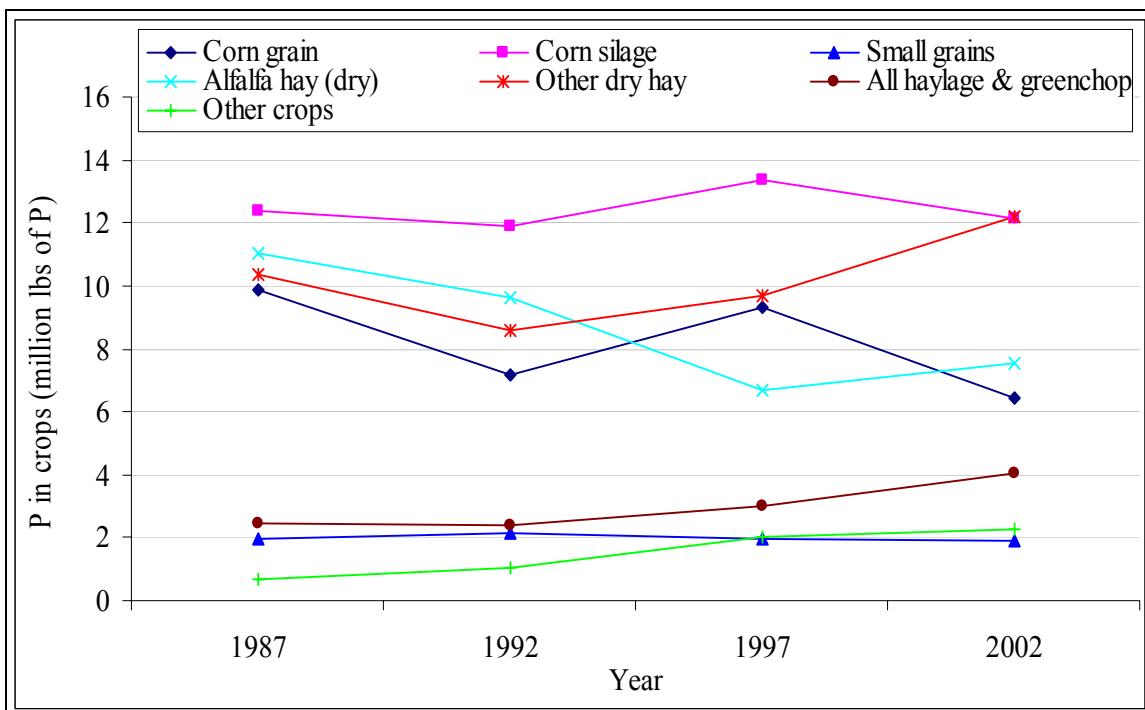


Figure 15: Amount of P in New York State harvest for seven different crop types in 1987, 1992, 1997, and 2002.

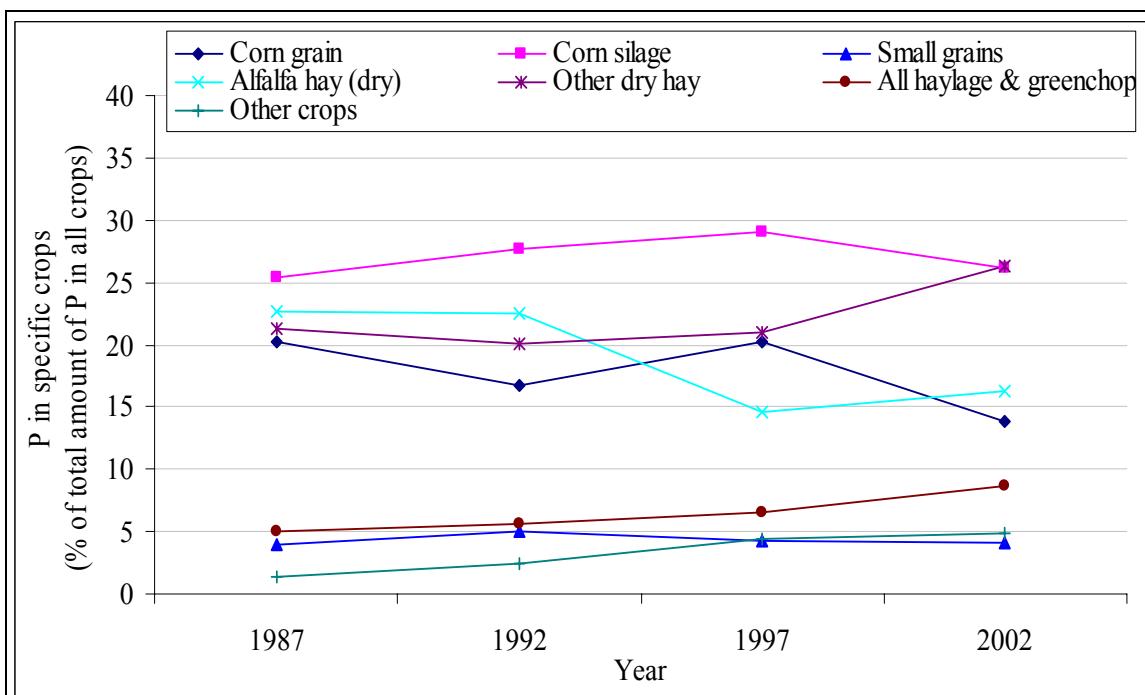


Figure 16: Percentage P in New York State crop removal for seven different types of crops in 1987, 1992, 1997, and 2002.

3.3 Phosphorus Balances and Soil Fertility Status

Research by Ketterings et al. (2005) on trends in P fertility of New York State agricultural land shows constant mean statewide P levels from 1957 to 1980 but a steadily increase after 1980 (Figure 17). In the most recent assessment (1995-2001) of soil test data, 47.4% of the soil samples received by the Cornell Nutrient Analysis Laboratory (CNAL) tested above the critical agronomic soil test P level for most field crops (9 lbs/acre Morgan extractable P) (Ketterings et al., 2005).

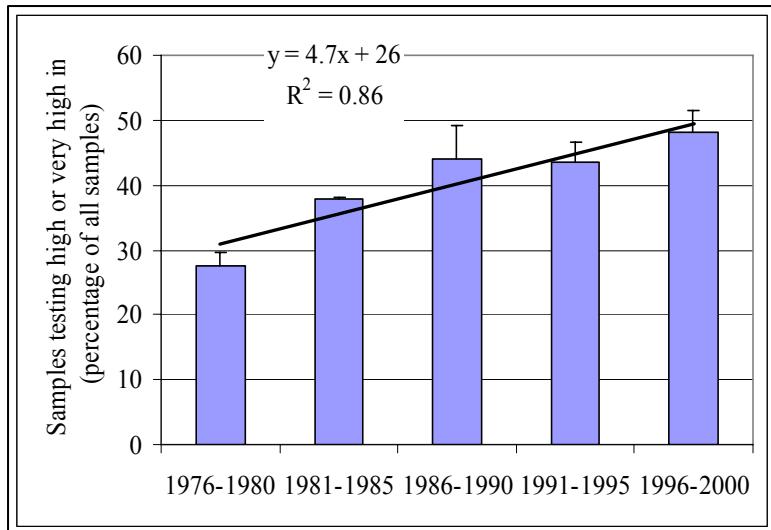


Figure 17: Past and current records show an increase in the percentage of soils testing high or very high in P over the past 25 years (Source: Ketterings et al., 2006).

For the six counties with negative P balances in 2002, the percentage of fields testing above the critical agronomic soil test P level (high or very high in P; crop response to additional P unlikely) ranged from 22.4% to 43.5%, below the New York State average.

For 2002, the amount of P applied in manure per manured acre explained only 2% of the variability in percentage of samples testing above the agronomic optimum for the

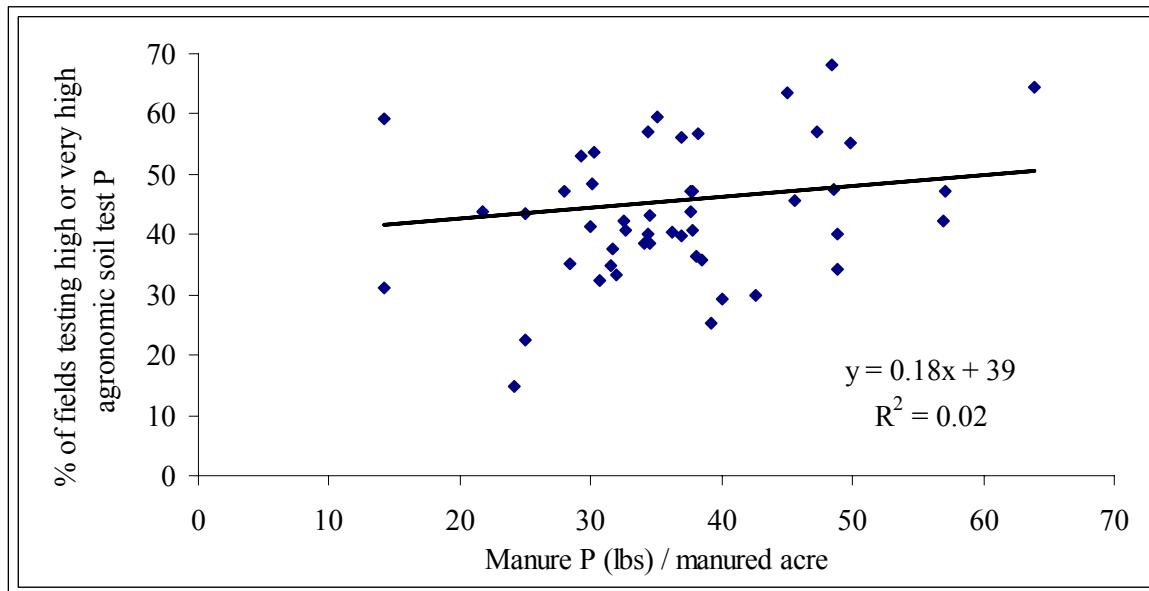


Figure 18: Comparison between lbs of P in manure per manured acre, and the percentage of soils testing high or very high in soil test P according to Ketterings et al. (2005).

51 counties studied (Figure 18) while the overall P balance (lbs P per harvested crop acre) explained significantly more (36% versus 2%) of this variability (results not shown). These results most likely reflect diversity in P use (fertilizer and/or manure) and agricultural focus throughout the state. When only the ten counties with the highest milk production were compared, the amount of P applied as manure per manured acre explained 61% of the variability in percentage of fields testing high or very high in soil test P (Figure 19) suggesting a link between manure application rates and the percentage of fields testing above the agronomic critical values.

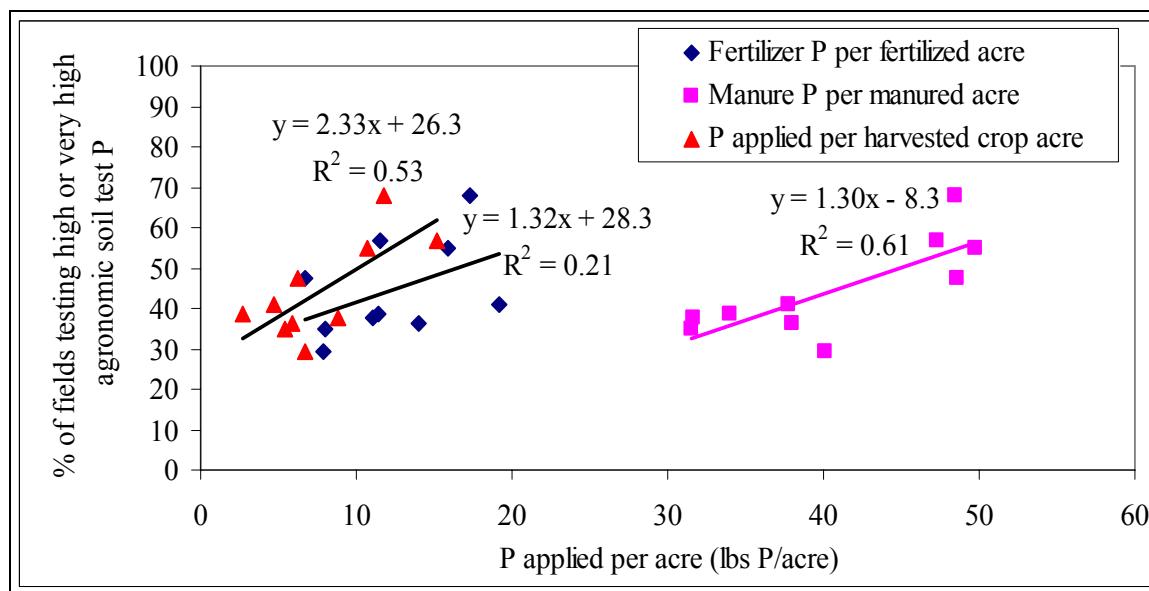


Figure 19: Fertilizer P per acre fertilized, manure P per manured acre and P balance per acre harvested cropland in 2002 as predictors for the percentage of soil samples testing above the agronomic optimum for the top 10 dairy counties in New York State. Soil test P distributions were obtained from Ketterings et al. (2005).

3.4 Comparisons with Mid-Atlantic States

In 2005, the Mid-Atlantic Regional Water Quality Program completed its study of P balances in participating states (<http://mawaterquality.agecon.vt.edu/>). We used the same approach to determine the P balances for New York State. A comparison of results is shown in Table 6. This shows substantially higher “positive” balances for the Mid-Atlantic States, in particular Virginia but also in the other states. Although a comparison with other Mid-Atlantic States is of interest, we focus our comparison on Pennsylvania because of its proximity to New York State.

The Pennsylvania P balance amounts to +56.3 million lbs P with 65.3 million lbs P input by manure and 46.5 million by fertilizer. The P in crop removal was estimated at 55 million lbs of P. There are 4.2 million acres of harvested cropland in Pennsylvania, resulting in a P balance of +13.4 lbs P/acre (+30.9 lbs P₂O₅/acre), almost twice the P balance in New York State (Table 6).

Table 6: Phosphorus balance data for the states of Mid-Atlantic and New York State for 2002.

	Overall P Balance	P Balance per Acre	P Balance per Acre	P in Manure	P in Fertilizer	P in Crop
	Million lbs P	lbs P/acre	lbs $P_2O_5/acre$	Million lbs P	Million lbs P	Million lbs P
New York (NY)	27.6	7.2	16.5	46.0	28.1	46.5
Pennsylvania (PA)†	56.3	13.4	30.9	65.3	46.5	55.5
Delaware (DE)	7.8	15.7	36.2	9.3	4.3	5.9
Maryland (MD)	20.5	14.7	33.7	17.1	20.5	17.2
Virginia (VA)†	63.0	23.3	53.6	40.3	53.4	30.8
West Virginia (WV)†	6.9	11.0	25.2	9.8	4.1	7.0

† Data based on Mid-Atlantic Regional Water Program county level tables. The Pennsylvania data are summarized per county in Appendix I. To convert from lbs to kg, multiply by 0.454. To convert from P to P_2O_5 , multiply by 2.3.

In comparison with New York State, Pennsylvania had a greater number of counties with lbs P/acre cropland values above +15 lbs of P per acre; eighteen out of 67 (27%) in Pennsylvania versus two out of the 51 counties with calculable P balances (9%) in New York. In Pennsylvania, only Delaware County had a P balance of more than +100 lbs P/acre (+683 lbs/acre). Five counties were in the +30 to +60 lbs P/acre range and 12 others exceeded +15 lbs P/acre. In contrast, New York State had only two counties with balances greater than +15 lbs P/acre (Suffolk with +15.7 lbs P/acre and Wyoming with +15.2 lbs P/acre) and as mentioned earlier, inclusion of P removal by fruits and vegetable crops in Suffolk county would reduce the P balance to approximately +12.2 lbs P/acre (28.1 lbs $P_2O_5/acre$). There were 2.4 million animal units (AU) reported for Pennsylvania in 2002 with 4.2 million acres resulting in an average animal density of 0.57 AU/acre. New York State data showed a total of 1.6 million AU and 3.9 million acres of cropland resulting in 0.41 AU/acre. The higher density as well as a larger ratio of P in manure versus P in crops (1.18 in Pennsylvania versus 0.99 in New York State) can in part be explained by differences in agricultural focus; in Pennsylvania 28% of the P in manure came from the poultry industry (only 3.7% in New York State), 5% from the hog industry (0.7% in New York State) and the rest, 67%, from cattle (95% in New York State). The poultry and hog industry tend to import a higher percentage of the feed than dairy farms where a substantial portion of the forage is grown on the farms explaining in part the greater P imbalances in poultry and hog dominated states.

4. Summary and Conclusions

The objective of this study was to evaluate the P balances for New York State and its counties over four different time points in a 15 year time period (1987, 1992, 1997, and 2002). Contributions of fertilizer and manure as well as P removal in crops were assessed to answer the following questions: (1) what are the current P balances for New York State and its counties?; (2) what are the biggest contributors to the P (im)balance?;

(3) what shifts in P balances occurred over the 15 year period?; (4) can P balances explain soil test P levels in the counties?; (5) how does New York State compare the Mid-Atlantic States?

On a statewide basis, P inputs in fertilizer and manure exceeded crop removal by 28.1 million lbs of P (16.5 lbs P₂O₅ per harvested acre) in 2002. Most of the P in manure was attributed to the dairy sector and corn (silage and grain), hay, and alfalfa accounted for >90% of all P in crops. The most commonly used fertilizers were "10-34-0", "11-52-0", and "10-20-20" (mainly bulk); "15-15-15" and "19-19-19" (bags and bulk); and "7-21-7" (liquid).

In five urban counties (Bronx, Kings, New York, Queens, and Richmond) and two Adirondack Mountain counties (Hamilton and Warren) cropland data were non-existent, mostly due to the absence of agricultural industry. No P balances (P/acre) could be derived for these counties. In addition, insufficient disclosure of crop data in the 2002 AG Census prevented us from deriving meaningful P balances for Nassau, Putnam, Rockland, and Westchester (suburban New York City counties with less than 1,250 acres of harvested cropland). Six counties had negative balances (Schoharie, Ulster, Essex, Schenectady, Seneca, and Albany). All other counties had "positive" (excess) P balances. The agricultural counties with the highest P balance in 2002 were Wyoming, Ontario, Cayuga, Genesee, St. Lawrence, Onondaga, Lewis, Steuben, Madison and Chautauqua. Each of these counties had a surplus of more than +750,000 lbs of P/county. Five of these counties were also in the top 15 when P balances were expressed on a per acre harvested cropland basis. Suffolk County, adjacent to New York City, also had an excessive P balance.

The amount of fertilizer P used on farms decreased from 56.6 million lbs in 1992, to 35.1 million lbs P in 1997 and 28.1 million lbs of P in 2002 and this greatly contributed to reduced overall P balances in 2002 as compared to earlier years (+16.5 lbs P₂O₅/acre in 2002 versus +20.2, +37.9 and +28.4 lbs P₂O₅/acre in 1997, 1992, and 1987, respectively). This trend suggests that producers have adjusted practices in light of shifts in soil test P levels. The county-based P balance/acre was poorly correlated to the percentage of soils testing high or very high in agronomic soil test P, most likely reflecting New York State's diverse agriculture (dairy, vegetables, fruits etc.). Better predictions were obtained using P application per manured acre of cropland for the top ten dairy counties. For the six counties with negative balances, the percentage of fields testing above the critical agronomic soil test P level (high or very high) ranged from 22.4% to 43.5%, well below the New York State average of 47.3%.

The overall P balance for New York State was "positive" (excess P) but substantially lower than for each of the Mid-Atlantic States. Delaware, Maryland, Virginia, West Virginia and Pennsylvania have a sizeable poultry with limited land resources and larger feed imports resulting in higher animal densities than those observed in New York State. In New York State, dairy farming dominated the animal industry with a fairly low state-wide animal density (0.41 animal units/acre).

Additional work is needed to quantify what a sustainable P balance is but the results of this study suggest that for the long-term sustainability of New York State's agriculture and the environment, current best management practices need to be expanded to include further source reduction and/or export of P.

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Appendices

Appendix A: Crop Phosphorus Content Comparison of Data Sources.

	NRCS	NRCS	NRCS	NRCS	NRCS	NMSP	NMSP	DairyOne	DairyOne	DairyOne	DairyOne	PPI/PPIC/FAR 2002	PA Mid-Atlantic
Crop	Yield unit	lbs per yield unit	% DM	P content (lbs per yu)†	%P DM	P content (lbs per yu)†	%P DM	P content (lbs per yu)†	% P DM	% DM	Samples	P content (lbs per yu)†	P content (lbs per yu)†
Corn for Grain	Bushels	56	86.700	0.150	0.317	0.151	0.310	0.164	0.329	89.016	2093	0.194	0.170
Corn for Silage	Tons	2,000	28.400	1.050	0.185	1.534	0.270	1.626	0.240	33.873	83120	1.584	2.190
Sorghums for Grain	Bushels	56	89.425	0.180	0.352	0.110	0.220	0.176	0.351	89.384	82	0.330	0.260
Sorghums for Silage	Tons	2,000	58.000	2.440	0.210	2.552	0.220	2.137	0.238	44.887	2135	-	1.310
Barley	Bushels	48	88.850	0.180	0.419	0.124	0.290	0.191	0.441	90.162	631	0.176	0.260
Buckwheat	Bushels	50	87.900	0.160	0.361	0.158	0.360	0.283	0.624	90.694	5	0.000	-
Oats	Bushels	32	89.430	0.110	0.369	0.089	0.310	0.123	0.421	91.182	281	0.110	0.390
Rye for Grain	Bushels	56	88.050	0.180	0.372	0.178	0.360	0.193	0.401	86.092	6	-	-
Wheat	Bushels	60	89.200	0.200	0.374	0.155	0.290	0.232	0.437	88.651	359	0.220	0.440
Soybeans	Bushels	60	90.575	0.360	0.659	0.353	0.650	0.396	0.721	91.468	156	0.352	0.440
Potatoes	Cwt	100	22.275	0.060	0.246	0.053	0.240	-	-	-	-	0.066	0.060
Dry Beans	Cwt	100	90.000	0.490	0.540	0.477	0.530	0.454	0.510	89.110	42	-	-
Alfalfa Hay	Tons	2,000	90.350	4.720	0.261	-	0.330	4.526	0.246	91.999	15502	6.600	6.560
Small Grain Hay	Tons	2,000	80.000	4.480	0.280	-	-	4.453	0.243	91.630	316	-	6.560
Other Tame Hay	Tons	2,000	90.000	15.300	0.850	-	-	-	-	-	-	-	6.560
Wild Hay	Tons	2,000	90.000	15.300	0.850	-	-	-	-	-	-	-	6.560
Grass Silage	Tons	2,000	50.000	1.600	0.160	-	-	3.057	0.329	38.998	16528	-	2.55‡

† To convert from lbs to kg, multiply by 0.454; yu = yield unit; DM = Dry Matter

‡ Haylage, green silage, and greenchop, DM = 35%

Sources:

- Natural Resources Conservation Service Plant Database (<http://nplc.nrcs.usda.gov>).
- DairyOne Forage Library (<http://www.dairyone.com/Forage/FeedComp/mainlibrary.asp>).
- PPI/PPIC/FAR 2002. Plant Nutrient Use in North American Agriculture. PPI/PPIC/FAR Technical Bulletin 2002-1. Norcross, GA.
- Pennsylvania data used in the Mid-Atlantic Regional Water Quality Program study (<http://mawaterquality.psu.edu/croptable.html>).

Appendix B: Data Sources

The 1997 and 2002 data for animal manure obtained from the United States Department of Agriculture National Agricultural Statistics Service (NASS) (<http://www.nass.usda.gov/census/>). Tables 11 till 16, 23 and 39 were downloaded in a '.CSV' format at the Query & Downloadable Options-link 'State – County' under Census Quick Stats: AG Statistics Data Base.

The screenshot shows two views of the USDA NASS website:

- Top View (2002 Census of Agriculture):** This view shows the main navigation menu with links to Home, Other Publications, 2002 Census, 1997 Census, 1992 Census, and Contact Us. Below the menu, the title "2002 Census of Agriculture" is prominently displayed. Three main sections are visible: "Geographic Area Series Publications", "Census Quick Stats: Ag Statistics Data Base", and "Specialty Products and Special Studies". The "Census Quick Stats" section contains a "Query & Downloadable Options" link, which is highlighted with a red arrow. The "Specialty Products" section lists various reports like Profiles, U.S. Agricultural Atlas Maps, and Quick Facts Brochures.
- Bottom View (2002 Census - Volume 1 Geographic Area Series):** This view shows a specific data query interface. It includes a search bar with the text "Create_Census_US_CNTY.jsp", the same main navigation menu, and the title "2002 Census of Agriculture - Volume 1 Geographic Area Series Census, State - County Data". A step-by-step guide is overlaid on the interface:
 - step 1** select data table: A red arrow points to the dropdown menu where "Table 11. Cattle and Calves - Inventory and Sales: 2002 and 1997" is selected.
 - step 2** select data items: A red arrow points to the dropdown menu where "Inventory - Cattle and calves (number, 1997)" is selected.

The 1987 and 1992 data were obtained from the Economics, Statistics and Market Information System at Mann Library, Cornell University (<http://usda.mannlib.cornell.edu/>).

The screenshot shows the homepage of the USDA AgCensus website. At the top, there's a banner with a collage of agricultural images (strawberries, sheep, apples) and the text "AgCensus: The U.S. Census of Agriculture: 1987, 1992, 1997". Below the banner, the main navigation menu includes "AgCensus Home", "About AgCensus", "Mann Library", and "USDA Economics & Statistics System". A sub-menu for "New York" is open, listing all 62 counties in the state. Two red arrows point to the "Submit Query" and "Reset" buttons below the county list. On the left, a map of New York state shows county boundaries and names.

After selecting the state, county-based queries were done. For this study tables 7, 10, 14 till 18 and 26 till 28 were used.

This screenshot shows the search interface for the "Census of Agriculture: 1987, 1992, 1997". It features a search bar, a radio button for "AND" or "OR" logic, and two "Submit Query" and "Reset" buttons. Below the search area is a list of 10 tables, each with a red arrow pointing to the "Submit Query" button. The tables listed are:

- Table 1 County summary highlights
- Table 2 Market value & farms by naics
- Table 3 Farm production expenses
- Table 4 Net cash return, gov payments
- Table 5 Hired farm labor-workers...
- Table 6 Farms, land in farms
- Table 7 Harvested cropland
- Table 8 Irrigation-farms with irrigation
- Table 9 Machinery & equipment on place
- Table 10 Ag chem used...fertilizer

Appendix C: Phosphate Fertilizer Sales

FARM USE	1992	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2002 calculated
County Name	P ₂ O ₅ (tons)	P ₂ O ₅ (tons)†										
Albany	53.0	74.3	65.9	80.4	78.2	60.9	138.4	164.6	115.4	95.5	87.3	102.5
Allegheny	150.8	348.4	299.4	230.6	381.0	296.5	138.2	73.7	99.3	124.1	149.4	164.5
Bronx	45.5	1.7	6.6	0.0	0.1	0.1	1.7	533.7	0.7	0.8	0.0	0.9
Broome	25.0	33.3	27.7	37.7	24.4	57.5	47.3	59.1	15.6	3.2	11.1	30.9
Cattaraugus	4,005.0	248.0	342.3	395.1	420.0	322.9	337.0	22.1	101.8	30.7	143.4	198.1
Cayuga	1,944.7	3,005.5	3,029.5	3,167.3	2,795.9	2,270.4	2,222.3	1,602.5	2,033.3	1,708.1	1,593.2	2,058.5
Chautauqua	126.3	558.3	866.8	873.6	1,159.2	1,335.2	499.1	306.9	392.0	284.1	455.6	627.6
Chemung	144.4	131.4	113.0	169.3	126.3	149.8	288.2	77.5	80.3	67.2	66.0	146.4
Chenango	422.6	180.8	125.8	129.6	117.1	193.9	145.5	63.8	103.7	231.5	80.6	168.6
Clinton	181.9	557.9	696.4	721.6	660.4	380.9	496.0	278.0	220.9	375.7	72.8	368.4
Columbia	975.7	470.7	330.1	333.6	313.6	388.2	506.1	631.0	302.0	449.4	298.9	411.4
Cortland	113.8	226.2	265.9	340.9	377.0	353.2	322.9	125.2	222.5	203.2	180.9	275.5
Delaware	324.5	175.5	162.3	100.3	84.7	101.7	351.3	794.2	102.6	250.5	221.8	201.5
Dutchess	977.1	347.8	139.7	326.2	546.5	232.0	422.7	860.2	475.3	391.7	366.3	380.4
Erie	22.4	1,006.0	825.1	1,052.5	1,103.9	1,003.0	841.2	838.7	654.9	635.1	689.7	783.5
Essex	353.2	38.4	46.6	91.2	98.5	21.0	46.5	635.7	11.1	63.7	1.1	35.6
Franklin	0.0	359.1	276.3	175.0	253.3	219.8	508.4	268.7	134.0	403.2	65.4	316.3
Fulton	2,302.6	60.3	71.3	60.3	48.6	55.1	59.3	125.9	30.2	82.3	51.3	56.7
Genesee	58.0	3,851.3	2,399.1	3,809.7	2,234.4	1,739.3	1,914.4	837.4	822.0	2,872.9	3,082.0	1,837.2
Greene	25.1	143.5	9.1	22.2	2.2	61.0	57.8	52.8	30.6	246.1	15.6	98.9
Hamilton	767.2	0.4	3.0	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Herkimer	285.2	320.4	263.8	295.1	279.6	283.6	275.2	179.0	161.8	237.1	196.2	239.4
Jefferson	501.4	584.9	492.5	674.1	735.2	602.6	764.7	792.4	586.9	826.7	610.3	695.2
Kings	2,099.8	74.7	54.7	47.9	15.9	9.1	3.1	1.6	0.2	0.6	0.0	3.2
Lewis	389.2	438.3	761.4	627.9	862.7	722.4	585.6	820.5	497.5	1,087.9	780.7	723.3
Livingston	610.2	1,189.0	944.2	2,949.5	1,487.8	1,543.3	1,737.4	1,149.9	1,303.4	796.1	1,445.3	1,345.0
Madison	147.4	738.5	530.0	507.4	836.1	787.8	824.5	249.9	637.5	395.2	702.8	661.2
Monroe	68.1	705.9	815.0	778.3	1299.3	777.3	806.2	649.3	484.6	1,023.3	768.0	772.8
Montgomery	1,421.9	639.9	813.4	748.8	678.1	503.7	598.2	914.5	427.3	722.9	537.0	563.1

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

FARM USE	1992	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2002 calculated
County Name	P ₂ O ₅ (tons)	P ₂ O ₅ (tons)†										
Nassau	1,301.3	6.7	33.6	7.1	11.3	26.1	122.6	119.2	160.1	168.2	4.2	119.2
New York	4,350.4	121.1	81.2	37.9	0.0	16.0	0.0	122.5	161.4	8.6	69.2	46.5
Niagara	3,912.5	1,193.0	1,848.7	1,866.6	1,596.2	1,275.5	1,597.2	1,082.1	1,066.3	1,030.6	1,348.4	1,242.4
Oneida	754.8	1,229.9	701.8	941.6	950.2	745.7	818.3	851.9	874.2	668.6	699.7	776.7
Onondaga	3,102.5	1,328.4	1,212.5	1,591.1	1,886.6	1,487.8	1,388.9	663.1	1,039.2	946.1	1,043.1	1,215.5
Ontario	371.3	2,795.3	3,354.5	2,894.8	3,326.4	2,005.3	2,667.2	2,091.1	2,452.1	2,159.9	947.9	2,321.1
Orange	176.5	685.2	171.2	626.0	905.9	306.3	582.7	728.3	608.9	792.7	551.6	572.6
Orleans	82.0	1,455.9	1,969.3	1,921.2	2,011.5	1,393.2	1,722.0	1,006.0	848.5	661.4	1,006.3	1,156.3
Oswego	1,537.3	368.1	400.5	423.0	638.9	851.2	400.9	201.7	312.2	439.7	264.7	501.0
Otsego	9.8	197.8	71.7	585.7	898.7	344.7	693.6	564.2	501.7	473.3	462.8	503.3
Putnam	678.5	133.7	2.6	0.0	0.1	3.8	0.9	8.2	1.9	213.9	0.0	55.1
Queens	54.7	2.2	0.1	1.3	0.8	0.7	0.7	1.4	0.2	2.2	0.0	0.9
Rensselaer	0.4	696.4	623.9	732.8	664.9	573.3	589.6	683.2	504.6	554.2	481.3	555.4
Richmond	134.0	0.0	15.3	0.1	0.0	0.0	0.6	1.3	1.6	3.5	0.0	1.4
Rockland	71.3	21.1	1.6	0.8	1.9	1.7	26.7	53.6	29.7	11.7	0.9	17.4
St Lawrence	165.9	785.1	826.7	779.0	898.9	678.8	885.8	657.8	514.7	842.3	285.5	730.4
Saratoga	3,268.7	178.1	154.4	166.7	143.5	86.9	97.3	72.1	176.0	186.5	152.3	136.7
Schenectady	1,663.4	24.6	9.3	11.7	11.1	25.6	22.5	5.8	9.0	17.5	15.9	18.6
Schoharie	45.1	171.2	352.2	105.4	104.6	131.5	166.8	103.5	31.9	54.7	99.3	96.2
Schuyler	399.6	52.8	84.3	45.6	74.7	58.2	74.8	18.9	20.6	1.6	13.8	38.8
Seneca	163.9	370.5	456.9	757.3	798.6	569.0	560.4	417.1	480.8	535.5	539.5	536.4
Steuben	132.1	2,312.3	2,930.2	1,305.1	1,270.0	1,742.6	1,974.1	1,368.4	1,392.9	1,451.6	1,436.3	1,640.3
Suffolk	1.2	2,502.1	1,020.7	371.1	2,106.4	386.9	483.4	481.2	676.6	360.2	463.3	476.8
Sullivan	1,010.9	140.6	158.7	151.9	183.3	156.8	87.9	124.4	112.4	87.4	94.9	111.1
Tioga	3,105.8	294.0	542.0	308.2	430.3	243.6	233.2	153.5	185.1	152.9	111.9	203.7
Tompkins	12.5	463.8	555.3	469.7	484.2	363.2	361.4	213.5	195.9	187.2	192.4	276.9
Ulster	2,092.3	98.0	99.8	94.0	83.0	124.8	83.1	97.0	82.2	80.5	87.4	92.6
Warren	184.6	15.6	1.3	11.7	10.6	0.3	2.6	2.4	13.7	6.9	15.5	5.9
Washington	0.0	650.9	678.9	696.8	525.8	351.7	410.7	283.5	585.9	576.2	522.5	481.2
Wayne	0.0	1,588.3	1,669.8	1,666.8	1,809.1	1,331.4	1,449.7	756.7	813.0	1,008.7	954.3	1,150.7
Westchester	0.9	20.4	13.9	11.7	7.1	20.3	79.9	130.9	74.1	2,563.5	4.6	684.4
Wyoming	4.8	2,036.3	2,216.8	1,956.7	2,125.0	1,299.9	1,375.1	983.0	1,354.1	1,179.1	1,312.6	1,302.1

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

FARM USE	1992	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2002 calculated
County Name	P ₂ O ₅ (tons)	P ₂ O ₅ (tons)†										
Yates	237.5	137.6	222.2	724.3	449.2	337.3	318.4	148.7	219.6	186.2	158.0	265.4
Unknown	17,143.6	2,398.4	2,948.5	3,342.5	3,390.8	385.3	2,288.3	11,911.1	1,629.0	1,713.4	863.6	1,504.0
Total Farm Use	64,711.8	40,985.9	40,207.3	43,352.9	44,820.4	31,797.6	36,506.4	39,216.1	27,177.5	32,935.8	26,876.5	32,104.3
Total Non Farm	7,826.6	4,286.9	4,857.3	4,193.5	4,807.4	6,863.3	5,805.1	4,290.6	4,571.7	6,449.9	5,554.4	5,922.5
Total Unknown Use	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.1	0.5	0.0	0.2
All Uses (July-June)	72,538.4	45,272.7	45,064.6	47,546.4	49,627.8	38,660.9	42,311.5	43,508.0	31,749.3	39,386.1	32,430.9	38,027.0
% Non Farm	10.79%	9.47%	10.78%	8.82%	9.69%	17.75%	13.72%	9.86%	14.40%	16.38%	17.13%	15.57%

† Average of 2000, 2001, 2003, and 2004 data.

Appendix D: County Level Fertilizer Phosphorus as % of New York Fertilizer Phosphorus Sales (Farm Use)

Farm Use (FU)	Average 96-99	1992	1996	1997	1998	1999	2000	2001	2002 average (00,01,03,04)	2002 reported	2003	2004	2005
County Name	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU TL	%State FU P	%State FU P	%State FU P
Albany	0.18%	0.08%	0.18%	0.16%	0.19%	0.17%	0.19%	0.38%	0.32%	0.42%	0.42%	0.29%	0.32%
Allegheny	0.74%	0.23%	0.85%	0.74%	0.53%	0.85%	0.93%	0.38%	0.51%	0.19%	0.37%	0.38%	0.56%
Bronx	0.01%	0.07%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	1.36%	0.00%	0.00%	0.00%
Broome	0.07%	0.04%	0.08%	0.07%	0.09%	0.05%	0.18%	0.13%	0.10%	0.15%	0.06%	0.01%	0.04%
Cattaraugus	0.83%	6.19%	0.61%	0.85%	0.91%	0.94%	1.02%	0.92%	0.62%	0.06%	0.37%	0.09%	0.53%
Cayuga	7.10%	3.01%	7.33%	7.53%	7.31%	6.24%	7.14%	6.09%	6.41%	4.09%	7.48%	5.19%	5.93%
Chautauqua	2.03%	0.20%	1.36%	2.16%	2.02%	2.59%	4.20%	1.37%	1.95%	0.78%	1.44%	0.86%	1.70%
Chemung	0.32%	0.22%	0.32%	0.28%	0.39%	0.28%	0.47%	0.79%	0.46%	0.20%	0.30%	0.20%	0.25%
Chenango	0.33%	0.65%	0.44%	0.31%	0.30%	0.26%	0.61%	0.40%	0.53%	0.16%	0.38%	0.70%	0.30%
Clinton	1.56%	0.28%	1.36%	1.73%	1.66%	1.47%	1.20%	1.36%	1.15%	0.71%	0.81%	1.14%	0.27%
Columbia	0.86%	1.51%	1.15%	0.82%	0.77%	0.70%	1.22%	1.39%	1.28%	1.61%	1.11%	1.36%	1.11%
Cortland	0.71%	0.18%	0.55%	0.66%	0.79%	0.84%	1.11%	0.88%	0.86%	0.32%	0.82%	0.62%	0.67%
Delaware	0.31%	0.50%	0.43%	0.40%	0.23%	0.19%	0.32%	0.96%	0.63%	2.03%	0.38%	0.76%	0.83%
Dutchess	0.79%	1.51%	0.85%	0.35%	0.75%	1.22%	0.73%	1.16%	1.18%	2.19%	1.75%	1.19%	1.36%
Erie	2.35%	0.03%	2.45%	2.05%	2.43%	2.46%	3.15%	2.30%	2.44%	2.14%	2.41%	1.93%	2.57%
Essex	0.16%	0.55%	0.09%	0.12%	0.21%	0.22%	0.07%	0.13%	0.11%	1.62%	0.04%	0.19%	0.00%
Franklin	0.63%	0.00%	0.88%	0.69%	0.40%	0.57%	0.69%	1.39%	0.99%	0.69%	0.49%	1.22%	0.24%
Fulton	0.14%	3.56%	0.15%	0.18%	0.14%	0.11%	0.17%	0.16%	0.18%	0.32%	0.11%	0.25%	0.19%
Genesee	7.28%	0.09%	9.40%	5.97%	8.79%	4.99%	5.47%	5.24%	5.72%	2.14%	3.02%	8.72%	11.47%
Greene	0.11%	0.04%	0.35%	0.02%	0.05%	0.00%	0.19%	0.16%	0.31%	0.13%	0.11%	0.75%	0.06%
Hamilton	0.00%	1.19%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Herkimer	0.69%	0.44%	0.78%	0.66%	0.68%	0.62%	0.89%	0.75%	0.75%	0.46%	0.60%	0.72%	0.73%
Jefferson	1.46%	0.77%	1.43%	1.22%	1.55%	1.64%	1.90%	2.09%	2.17%	2.02%	2.16%	2.51%	2.27%
Kings	0.12%	3.24%	0.18%	0.14%	0.11%	0.04%	0.03%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%
Lewis	1.58%	0.60%	1.07%	1.89%	1.45%	1.92%	2.27%	1.60%	2.25%	2.09%	1.83%	3.30%	2.90%
Livingston	3.84%	0.94%	2.90%	2.35%	6.80%	3.32%	4.85%	4.76%	4.19%	2.93%	4.80%	2.42%	5.38%
Madison	1.54%	0.23%	1.80%	1.32%	1.17%	1.87%	2.48%	2.26%	2.06%	0.64%	2.35%	1.20%	2.62%

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

Farm Use (FU)	Average 96-99	1992	1996	1997	1998	1999	2000	2001	2002 average (00,01,03,04)	2002 reported	2003	2004	2005
County Name	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU TL	%State FU P	%State FU P	%State FU P
Monroe	2.11%	0.11%	1.72%	2.03%	1.80%	2.90%	2.44%	2.21%	2.41%	1.66%	1.78%	3.11%	2.86%
Montgomery	1.71%	2.20%	1.56%	2.02%	1.73%	1.51%	1.58%	1.64%	1.75%	2.33%	1.57%	2.19%	2.00%
Nassau	0.04%	2.01%	0.02%	0.08%	0.02%	0.03%	0.08%	0.34%	0.37%	0.30%	0.59%	0.51%	0.02%
New York	0.15%	6.72%	0.30%	0.20%	0.09%	0.00%	0.05%	0.00%	0.14%	0.31%	0.59%	0.03%	0.26%
Niagara	3.84%	6.05%	2.91%	4.60%	4.31%	3.56%	4.01%	4.38%	3.87%	2.76%	3.92%	3.13%	5.02%
Oneida	2.26%	1.17%	3.00%	1.75%	2.17%	2.12%	2.34%	2.24%	2.42%	2.17%	3.22%	2.03%	2.60%
Onondaga	3.53%	4.79%	3.24%	3.02%	3.67%	4.21%	4.68%	3.80%	3.79%	1.69%	3.82%	2.87%	3.88%
Ontario	7.32%	0.57%	6.82%	8.34%	6.68%	7.42%	6.31%	7.31%	7.23%	5.33%	9.02%	6.56%	3.53%
Orange	1.39%	0.27%	1.67%	0.43%	1.44%	2.02%	0.96%	1.60%	1.78%	1.86%	2.24%	2.41%	2.05%
Orleans	4.34%	0.13%	3.55%	4.90%	4.43%	4.49%	4.38%	4.72%	3.60%	2.57%	3.12%	2.01%	3.74%
Oswego	1.07%	2.38%	0.90%	1.00%	0.98%	1.43%	2.68%	1.10%	1.56%	0.51%	1.15%	1.34%	0.98%
Otsego	1.00%	0.02%	0.48%	0.18%	1.35%	2.01%	1.08%	1.90%	1.57%	1.44%	1.85%	1.44%	1.72%
Putnam	0.08%	1.05%	0.33%	0.01%	0.00%	0.00%	0.01%	0.00%	0.17%	0.02%	0.01%	0.65%	0.00%
Queens	0.00%	0.08%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%
Rensselaer	1.61%	0.00%	1.70%	1.55%	1.69%	1.48%	1.80%	1.61%	1.73%	1.74%	1.86%	1.68%	1.79%
Richmond	0.01%	0.21%	0.00%	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.00%
Rockland	0.02%	0.11%	0.05%	0.00%	0.00%	0.00%	0.01%	0.07%	0.05%	0.14%	0.11%	0.04%	0.00%
St Lawrence	1.94%	0.26%	1.92%	2.06%	1.80%	2.01%	2.13%	2.43%	2.28%	1.68%	1.89%	2.56%	1.06%
Saratoga	0.38%	5.05%	0.43%	0.38%	0.38%	0.32%	0.27%	0.27%	0.43%	0.18%	0.65%	0.57%	0.57%
Schenectady	0.03%	2.57%	0.06%	0.02%	0.03%	0.02%	0.08%	0.06%	0.06%	0.01%	0.03%	0.05%	0.06%
Schoharie	0.44%	0.07%	0.42%	0.88%	0.24%	0.23%	0.41%	0.46%	0.30%	0.26%	0.12%	0.17%	0.37%
Schuyler	0.15%	0.62%	0.13%	0.21%	0.11%	0.17%	0.18%	0.20%	0.12%	0.05%	0.08%	0.00%	0.05%
Seneca	1.39%	0.25%	0.90%	1.14%	1.75%	1.78%	1.79%	1.54%	1.67%	1.06%	1.77%	1.63%	2.01%
Steuben	4.69%	0.20%	5.64%	7.29%	3.01%	2.83%	5.48%	5.41%	5.11%	3.49%	5.13%	4.41%	5.34%
Suffolk	3.55%	0.00%	6.10%	2.54%	0.86%	4.70%	1.22%	1.32%	1.49%	1.23%	2.49%	1.09%	1.72%
Sullivan	0.37%	1.56%	0.34%	0.39%	0.35%	0.41%	0.49%	0.24%	0.35%	0.32%	0.41%	0.27%	0.35%
Tioga	0.93%	4.80%	0.72%	1.35%	0.71%	0.96%	0.77%	0.64%	0.63%	0.39%	0.68%	0.46%	0.42%
Tompkins	1.17%	0.02%	1.13%	1.38%	1.08%	1.08%	1.14%	0.99%	0.86%	0.54%	0.72%	0.57%	0.72%
Ulster	0.22%	3.23%	0.24%	0.25%	0.22%	0.19%	0.39%	0.23%	0.29%	0.25%	0.30%	0.24%	0.33%
Warren	0.02%	0.29%	0.04%	0.00%	0.03%	0.02%	0.00%	0.01%	0.02%	0.01%	0.05%	0.02%	0.06%
Washington	1.51%	0.00%	1.59%	1.69%	1.61%	1.17%	1.11%	1.13%	1.50%	0.72%	2.16%	1.75%	1.94%

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

Farm Use (FU)	Average 96-99	1992	1996	1997	1998	1999	2000	2001	2002 average (00,01,03,04)	2002 reported	2003	2004	2005
County Name	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU P	%State FU TL	%State FU P	%State FU P	%State FU P
Wayne	3.98%	0.00%	3.88%	4.15%	3.84%	4.04%	4.19%	3.97%	3.58%	1.93%	2.99%	3.06%	3.55%
Westchester	0.03%	0.00%	0.05%	0.03%	0.03%	0.02%	0.06%	0.22%	2.13%	0.33%	0.27%	7.78%	0.02%
Wyoming	4.93%	0.01%	4.97%	5.51%	4.51%	4.74%	4.09%	3.77%	4.06%	2.51%	4.98%	3.58%	4.88%
Yates	0.89%	0.37%	0.34%	0.55%	1.67%	1.00%	1.06%	0.87%	0.83%	0.38%	0.81%	0.57%	0.59%
Unknown	7.12%	26.49%	5.85%	7.33%	7.71%	7.57%	1.21%	6.27%	4.68%	30.37%	5.99%	5.20%	3.21%

Appendix E: Selected Phosphorus Balance Assessment Data 2002

	Total P Balance	P per acre harvested cropland	Total P Manure	Total P Fertilizer	Total P Crops	Total Animal Units	Total Harvested cropland
Unit	tons	lbs/acre§	tons	tons	tons	AU‡	acre§
New York Total†	13,785	7.17	22,990	14,030	23,234	1,577,509	3,846,368
Albany	-1	-0.06	104	45	150	9,644	31,500
Allegany	108	3.14	454	72	418	33,940	68,542
Broome	82	4.05	271	14	203	20,596	40,318
Cattaraugus	94	2.44	538	87	530	38,755	77,030
Cayuga	830	10.73	951	900	1,020	61,994	154,704
Chautauqua	391	6.73	784	274	667	54,611	116,154
Chemung	34	2.65	106	64	136	8,904	25,982
Chenango	184	4.68	596	74	485	41,744	78,715
Clinton	311	8.99	595	161	446	39,265	69,124
Columbia	151	4.90	337	180	366	24,795	61,490
Cortland	239	9.01	441	120	322	29,924	53,033
Delaware	230	6.89	515	88	372	36,663	66,875
Dutchess	41	1.90	111	166	236	12,326	43,528
Erie	250	5.83	499	342	591	36,422	85,767
Essex	-20	-2.16	71	16	106	5,600	18,644
Franklin	289	9.51	529	138	378	34,560	60,827
Fulton	25	2.93	91	25	91	7,076	16,856
Genesee	736	11.72	742	803	809	49,277	125,553
Greene	19	1.58	54	43	78	5,079	24,254
Herkimer	231	6.52	549	105	423	37,087	70,890
Jefferson	247	2.72	1,048	304	1,105	70,583	181,484
Lewis	431	8.86	820	316	705	52,593	97,402
Livingston	339	5.41	622	588	871	43,402	125,344
Madison	395	9.18	699	289	593	46,857	86,164
Monroe	119	3.57	90	338	309	8,472	66,532
Montgomery	146	3.19	493	246	593	33,542	91,811
Niagara	247	5.18	239	543	535	18,976	95,331
Oneida	325	5.84	740	339	754	50,197	111,320
Onondaga	433	8.82	568	531	666	38,634	98,044
Ontario	856	14.12	531	1,014	689	37,738	121,288
Orange	233	8.51	253	250	271	19,423	54,654
Orleans	188	4.07	108	505	426	8,999	92,204
Oswego	194	9.27	188	219	214	14,750	41,738
Otsego	271	6.31	557	220	506	39,705	85,894
Rensselaer	185	8.45	205	243	262	15,739	43,804
St. Lawrence	469	5.43	1,201	319	1,051	81,499	173,033
Saratoga	54	2.97	223	60	229	17,382	36,161
Schenectady	-10	-2.12	17	8	35	2,045	9,051
Schoharie	-54	-1.90	240	42	336	17,326	57,030
Schuyler	14	1.02	157	17	159	11,838	28,302
Seneca	-2	-0.05	258	234	495	19,124	86,509
Steuben	419	4.71	721	717	1,020	54,406	177,644

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

	Total P Balance	P per acre harvested cropland	Total P Manure	Total P Fertilizer	Total P Crops	Total Animal Units	Total Harvested cropland
Unit	tons	lbs/acre§	tons	tons	tons	AU‡	acre§
Suffolk	171	15.68	3	208	41	1,712	21,787
Sullivan	75	5.63	140	49	113	11,356	26,541
Tioga	113	4.05	298	89	274	22,129	55,922
Tompkins	110	4.15	312	121	323	23,177	53,108
Ulster	-34	-2.15	52	40	126	6,575	31,516
Washington	325	6.27	821	210	705	55,280	103,753
Wayne	288	5.82	259	503	475	19,414	98,793
Wyoming	1,013	15.23	1,547	569	1,102	99,316	133,091
Yates	114	3.44	351	116	352	24,155	66,423

† Ton equals 2,000 lbs. The state-wide estimates include P calculated from animals and crop harvests not disclosed at the county level as well as P from fertilizer sales not attributed to a specific county and from unlisted counties with no reported harvested cropland acres (7 counties) or with less than 1250 acres for which there was little crop yield data disclosed in the 2002 AG Census (2 counties).

‡ AU equals 1,000 lbs.

§ To convert from acre to hectare, multiply by 0.405.

Appendix F: Total P Balance, Manure P, Fertilizer P, and P in Crops

All data are in tons (2,000 lbs). To convert from lbs to kg, multiply by 0.454.

NRCS regions and counties	Balance	Manure	Fertilizer	Crops	Balance	Manure	Fertilizer	Crops
	1987	1987	1987	1987	1992	1992	1992	1992
Central								
Cayuga	1,380	724	1,733	1,078	1,741	721	2,009	988
Chenango	294	797	80	583	307	730	93	516
Cortland	349	627	173	451	378	564	201	386
Herkimer	377	723	167	514	366	645	194	473
Madison	585	978	376	769	615	847	435	668
Oneida	694	1,016	551	874	759	837	639	717
Onondaga	886	632	862	608	982	567	999	584
Oswego	237	293	262	318	320	239	304	223
Otsego	443	870	245	672	440	704	284	548
Eastern								
Albany	-13	95	43	150	-4	79	50	134
Fulton	58	130	35	108	57	123	40	106
Montgomery	460	615	416	571	562	590	482	511
Rensselaer	405	291	392	278	399	226	454	282
Schenectady	-1	24	8	33	-1	18	10	28
Schoharie	144	410	108	375	119	337	125	343
Washington	547	940	370	762	516	844	428	756
Long Island								
Suffolk	860	15	866	21	921	2	1004	85
Northeast								
Clinton	510	616	380	487	580	558	441	419
Essex	32	110	39	117	46	83	45	83
Franklin	336	637	154	456	344	546	179	381
Northern								
Jefferson	570	1,175	357	962	595	985	413	804
Lewis	674	901	387	614	700	812	448	560
St. Lawrence	731	1,394	474	1,137	735	1,279	550	1,094
Southeast								
Columbia	209	386	210	387	180	336	243	399
Delaware	321	762	76	518	283	621	89	427
Dutchess	168	250	193	275	132	164	224	256
Greene	25	90	26	91	-2	59	30	92
Orange	394	356	339	301	406	305	393	293
Putnam	15	0	20	5	20	0	24	4
Saratoga	68	216	93	240	60	181	108	229
Sullivan	110	174	91	156	151	163	106	118
Ulster	35	109	54	129	22	61	63	102
Westchester	9	10	8	9	7	0	9	2

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

NRCS regions and counties	<i>Balance</i>	<i>Manure</i>	<i>Fertilizer</i>	<i>Crops</i>	<i>Balance</i>	<i>Manure</i>	<i>Fertilizer</i>	<i>Crops</i>
	1987	1987	1987	1987	1992	1992	1992	1992
Southern								
Broome	83	332	18	267	79	275	21	217
Chemung	62	146	78	162	89	113	90	114
Schuyler	8	129	37	159	14	113	43	142
Tioga	330	417	228	315	326	349	264	286
Tompkins	230	302	285	357	298	276	331	308
Southwest								
Allegany	203	440	182	419	260	382	210	333
Cattaraugus	353	777	202	626	446	684	234	472
Chautauqua	633	855	495	717	822	839	574	591
Steuben	997	825	1,145	974	1,246	789	1,327	870
Western								
Erie	551	541	573	564	713	466	664	417
Genesee	1,646	563	1,778	694	1,988	547	2,060	618
Livingston	645	526	938	819	882	528	1,087	733
Monroe	283	175	515	408	403	156	597	350
Niagara	696	261	938	503	904	210	1,087	393
Ontario	1,431	365	1,785	719	1,784	372	2,069	657
Orleans	767	174	1,060	466	1,004	144	1,228	369
Seneca	41	181	340	480	144	200	394	450
Wayne	790	300	971	480	981	263	1,125	406
Wyoming	1,350	1,044	1,204	898	1,720	1,136	1,395	811
Yates	96	197	217	318	193	229	252	288

NRCS regions and counties	<i>Balance</i>	<i>Manure</i>	<i>Fertilizer</i>	<i>Crops</i>	<i>Balance</i>	<i>Manure</i>	<i>Fertilizer</i>	<i>Crops</i>
	1997	1997	1997	1997	2002	2002	2002	2002
Central								
Cayuga	977	835	1,324	1,182	830	951	900	1,020
Chenango	244	682	55	493	184	596	74	485
Cortland	196	441	116	361	239	441	120	322
Herkimer	234	580	115	461	231	549	105	423
Madison	297	744	232	679	395	699	289	593
Oneida	365	821	307	763	325	740	339	754
Onondaga	419	520	530	631	433	568	531	666
Oswego	118	194	175	251	194	188	219	214
Otsego	117	595	31	509	271	557	220	506
Eastern								
Albany	-19	71	29	119	-1	104	45	150
Fulton	38	119	31	111	25	91	25	91
Montgomery	383	527	355	499	146	493	246	593
Rensselaer	230	230	273	273	185	205	243	262
Schenectady	-5	20	4	29	-10	17	8	35
Schoharie	155	287	154	286	-54	240	42	336
Washington	444	787	297	640	325	821	210	705

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

NRCS regions and counties	<i>Balance</i>	<i>Manure</i>	<i>Fertilizer</i>	<i>Crops</i>	<i>Balance</i>	<i>Manure</i>	<i>Fertilizer</i>	<i>Crops</i>
	1997	1997	1997	1997	2002	2002	2002	2002
<i>Long Island</i>								
Suffolk	364	3	446	84	171	3	208	41
<i>Northeast</i>								
Clinton	427	558	304	435	311	595	161	446
Essex	17	83	20	86	-20	71	16	106
Franklin	255	531	121	398	289	529	138	378
<i>Northern</i>								
Jefferson	222	895	215	889	247	1,048	304	1,105
Lewis	601	833	333	565	431	820	316	705
St. Lawrence	479	1,212	361	1,095	469	1,201	319	1,051
<i>Southeast</i>								
Columbia	103	366	144	406	151	337	180	366
Delaware	209	509	71	370	230	515	88	372
Dutchess	-33	140	61	234	41	111	166	236
Greene	-25	56	4	85	19	54	43	78
Orange	97	281	75	259	233	253	250	271
Putnam	-2	1	1	4	22	1	24	3
Saratoga	51	207	67	224	54	223	60	229
Sullivan	91	156	69	134	75	140	49	113
Ulster	-4	47	44	95	-34	52	40	126
Westchester	2	0	6	5	298	1	299	2
<i>Southern</i>								
Broome	33	226	12	205	82	271	14	203
Chemung	21	106	49	134	34	106	64	136
Schuyler	9	125	37	153	14	157	17	159
Tioga	304	319	237	253	113	298	89	274
Tompkins	198	273	243	318	110	312	121	323
<i>Southwest</i>								
Allegany	153	413	131	391	108	454	72	418
Cattaraugus	254	617	150	512	94	538	87	530
Chautauqua	554	792	379	616	391	784	274	667
Steuben	1,017	733	1,281	996	419	721	717	1,020
<i>Western</i>								
Erie	329	468	361	500	250	499	342	591
Genesee	971	653	1048	731	736	742	803	809
Livingston	87	532	413	858	339	622	588	871
Monroe	62	109	356	403	119	90	338	309
Niagara	500	218	808	526	247	239	543	535
Ontario	1,079	451	1466	838	856	531	1014	689
Orleans	,413	118	861	565	188	108	505	426
Seneca	-149	233	200	582	-2	258	234	495
Wayne	421	244	730	552	288	259	503	475
Wyoming	1,370	1,333	969	932	1,013	1,547	569	1,102
Yates	47	287	97	337	114	351	116	352

Appendix G: State and County Animal, Fertilizer, and Crop Production Data and P Estimates.

2002†

	Total P Balance	P/acre harvested cropland	Total P Manure	Total P Fertilizer	Total P Crops	Total P Cattle	Total P Hogs	Total P Poultry	Total P Sheep	Total P Horses	Total Animal Units
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	(1000 lbs/AU)
New York State	27,570,462	7.17	45,979,884	28,059,180	46,468,602	43,785,450	319,494	1,722,022	97,120	55,798	1,577,509
Albany	-1,978	-0.06	208,918	89,611	300,507	202,719	1,799	638	3,123	640	9,644
Allegany	215,238	3.14	907,823	143,811	836,397	903,288	0	635	2,735	1,166	33,940
Broome	163,240	4.05	541,921	27,033	405,714	539,389	424	487	619	1,001	20,596
Cattaraugus	188,002	2.44	1,075,033	173,142	1,060,173	1,068,517	2,350	1,278	1,099	1,789	38,755
Cayuga	1,660,679	10.73	1,901,640	1,799,170	2,040,131	1,843,882	363	54,668	1,729	998	61,994
Chautauqua	781,728	6.73	1,567,634	548,511	1,334,418	1,560,317	3,425	1,195	1,035	1,663	54,611
Chemung	68,793	2.65	212,360	127,912	271,479	208,644	648	858	1,476	735	8,904
Chenango	368,661	4.68	1,191,614	147,374	970,327	1,180,044	7,128	705	2,493	1,244	41,744
Clinton	621,097	8.99	1,190,483	321,948	891,334	1,187,323	2,027	65	389	680	39,265
Columbia	301,446	4.90	674,341	359,592	732,487	667,827	2,781	187	2,486	1,059	24,795
Cortland	477,643	9.01	881,379	240,750	644,486	876,460	860	622	2,763	675	29,924
Delaware	460,568	6.89	1,029,408	176,141	744,981	1,020,501	3,902	1,785	2,237	984	36,663
Dutchess	82,911	1.90	222,167	332,498	471,755	212,924	1,600	2,510	2,760	2,373	12,326
Erie	500,037	5.83	997,232	684,812	1,182,008	986,101	4,159	1,713	2,866	2,394	36,422
Essex	-40,301	-2.16	141,602	31,093	212,997	140,668	0	336	174	424	5,600
Franklin	578,399	9.51	1,057,523	276,480	755,604	1,052,080	1,059	2,568	1,398	418	34,560
Fulton	49,341	2.93	182,214	49,584	182,456	180,009	0	524	1,173	507	7,076
Genesee	1,471,174	11.72	1,483,347	1,605,671	1,617,844	1,478,011	0	251	4,144	942	49,277
Greene	38,292	1.58	108,281	86,437	156,426	105,185	1,374	6	1,225	491	5,079
Herkimer	461,871	6.52	1,098,562	209,243	845,935	1,093,530	1,087	1,192	1,999	754	37,087
Jefferson	493,492	2.72	2,096,503	607,647	2,210,658	2,091,932	2,112	66	1,416	977	70,583
Lewis	862,743	8.86	1,640,975	632,187	1,410,418	1,638,855	814	378	417	511	52,593
Livingston	677,619	5.41	1,244,352	1,175,573	1,742,307	1,237,517	1,456	646	3,440	1,294	43,402
Madison	790,832	9.18	1,397,924	577,915	1,185,007	1,390,189	2,841	563	3,357	973	46,857
Monroe	237,280	3.57	179,505	675,471	617,696	174,739	1,136	412	1,779	1,439	8,472
Montgomery	292,427	3.19	986,259	492,106	1,185,939	978,668	2,496	1,000	3,370	724	33,542
Niagara	493,989	5.18	478,779	1,085,833	1,070,623	473,644	2,317	521	1,038	1,259	18,976
Oneida	650,509	5.84	1,479,783	678,820	1,508,093	1,474,899	849	1,091	1,457	1,487	50,197

† To convert from lbs to kg, multiply by 0.454. To convert from acre to hectare, multiply by 0.405. New York State averages include P calculated from animals and crop harvests not disclosed at the county level as well as P from fertilizer sales not attributed to a specific county and from unlisted counties with no reported harvested cropland acres (7 counties) or with less than 1,250 acres for which there was little crop yield data disclosed in the 2002 AG Census (2 counties).

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	Total P Balance	P per acre harvested cropland	Total P Manure	Total P Fertilizer	Total P Crops	Total P Cattle	Total P Hogs	Total P Poultry	Total P Sheep	Total P Horses	Total Animal Units
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	(1000 lbs/AU)
Onondaga	865,055	8.82	1,135,390	1,062,331	1,332,666	1,132,189	957	6	764	1,473	38,634
Ontario	1,712,024	14.12	1,061,940	2,028,684	1,378,600	1,057,505	0	109	2,827	1,500	37,738
Orange	465,298	8.51	506,234	500,489	541,425	502,594	797	28	737	2,076	19,423
Orleans	375,181	4.07	215,697	1,010,574	851,090	212,868	1,327	362	429	712	8,999
Oswego	387,040	9.27	376,772	437,869	427,600	371,367	3,720	442	405	838	14,750
Otsego	541,952	6.31	1,113,144	439,909	1,011,101	1,105,722	1,188	1,419	3,405	1,410	39,705
Rensselaer	370,122	8.45	409,281	485,435	524,594	399,131	2,148	1,704	5,624	675	15,739
St. Lawrence	938,872	5.43	2,402,078	638,379	2,101,584	2,388,403	5,795	2,255	3,917	1,708	81,499
Saratoga	107,567	2.97	446,352	119,452	458,237	442,622	1,272	168	663	1,627	17,382
Schenectady	-19,177	-2.12	33,635	16,300	69,111	32,271	635	58	316	354	2,045
Schoharie	-108,506	-1.90	480,338	84,110	672,953	475,984	1,578	593	1,536	646	17,326
Schuyler	28,989	1.02	313,126	33,923	318,060	303,373	5,814	57	3,367	515	11,838
Seneca	-4,061	-0.05	516,739	468,850	989,650	513,164	0	780	2,299	496	19,124
Steuben	837,114	4.71	1,442,549	1,433,642	2,039,077	1,412,290	25,574	145	2,532	2,009	54,406
Suffolk	341,646	15.68	6,754	416,703	81,811	3,123	683	1,704	211	1,031	1,712
Sullivan	149,455	5.63	279,066	97,117	226,727	257,935	767	18,385	1,173	806	11,356
Tioga	226,336	4.05	595,771	178,027	547,462	585,299	7,028	1,131	1,402	910	22,129
Tompkins	220,378	4.15	624,818	242,052	646,491	618,515	1,958	122	2,879	1,344	23,177
Ulster	-67,897	-2.15	103,022	80,967	251,886	97,146	1,340	2,418	771	1,346	6,575
Washington	650,876	6.27	1,641,295	420,529	1,410,948	1,630,600	4,417	1,336	3,775	1,166	55,280
Wayne	575,136	5.82	518,710	1,005,727	949,301	495,712	21,126	21	935	916	19,414
Wyoming	2,026,810	15.23	3,093,719	1,138,003	2,204,912	3,085,836	6,058	153	915	758	99,316
Yates	228,824	3.44	701,267	231,945	704,388	687,629	10,164	1,500	1,413	560	24,155

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	D Milking cows	Milking cows	P Milking cows	D Beef cattle	Beef cattle	P Beef cattle	D Other cattle	Other cattle	P Other cattle	D Breeding hogs	Breeding hogs	P Breeding hogs	D Other hogs
	number	AU	lbs	number	AEU	lbs	number	AEU	lbs	number	AU	lbs	number
New York State	669,986	919,891	31,595,200	80,466	80,466	199,451	702,531	456,645	11,990,799	10,676	4,548	75,906	71,210
Albany	1,982	2,721	93,467	1,611	1,611	3,993	6,167	4,009	105,258	61	26	434	399
Allegany	11,946	16,402	563,349	2,890	2,890	7,163	19,497	12,673	332,775	0	0	0	0
Broome	7,108	9,759	335,199	1,655	1,655	4,102	11,723	7,620	200,088	13	6	92	97
Cattaraugus	16,705	22,936	787,774	2,482	2,482	6,152	16,088	10,457	274,590	165	70	1,173	344
Cayuga	28,939	39,733	1,364,705	2,049	2,049	5,079	27,777	18,055	474,098	51	22	363	0
Chautauqua	24,008	32,963	1,132,169	2,877	2,877	7,131	24,667	16,034	421,016	220	94	1,564	544
Chemung	3,112	4,273	146,756	1,129	1,129	2,798	3,462	2,250	59,089	17	7	121	154
Chenango	18,334	25,173	864,595	2,423	2,423	6,006	18,130	11,785	309,443	213	91	1,514	1,641
Clinton	18,970	26,046	894,587	1,020	1,020	2,528	17,003	11,052	290,207	171	73	1,216	237
Columbia	9,753	13,391	459,932	1,731	1,731	4,291	11,929	7,754	203,604	129	55	917	545
Cortland	14,117	19,383	665,729	1,360	1,360	3,371	12,149	7,897	207,359	45	19	320	158
Delaware	14,778	20,290	696,901	2,434	2,434	6,033	18,606	12,094	317,567	161	69	1,145	806
Dutchess	2,862	3,930	134,966	1,649	1,649	4,087	4,328	2,813	73,870	74	32	526	314
Erie	15,515	21,302	731,656	1,492	1,492	3,698	14,691	9,549	250,746	188	80	1,337	825
Essex	1,983	2,723	93,514	480	480	1,190	2,693	1,750	45,964	0	0	0	0
Franklin	17,404	23,896	820,738	1,151	1,151	2,853	13,387	8,702	228,489	71	30	505	162
Fulton	2,784	3,822	131,288	596	596	1,477	2,768	1,799	47,244	0	0	0	0
Genesee	23,089	31,701	1,088,831	1,093	1,093	2,709	22,643	14,718	386,471	0	0	0	0
Greene	1,340	1,840	63,192	815	815	2,020	2,342	1,522	39,973	98	42	697	198
Herkimer	17,310	23,767	816,305	1,559	1,559	3,864	16,016	10,410	273,361	62	26	441	189
Jefferson	32,736	44,947	1,543,764	3,427	3,427	8,495	31,619	20,552	539,673	45	19	320	524
Lewis	26,440	36,302	1,246,858	584	584	1,448	22,882	14,873	390,550	38	16	270	159
Livingston	18,540	25,455	874,309	2,011	2,011	4,985	20,988	13,642	358,223	109	46	775	199
Madison	21,608	29,668	1,018,990	1,310	1,310	3,247	21,558	14,013	367,952	135	58	960	550
Monroe	2,524	3,465	119,027	607	607	1,505	3,176	2,064	54,208	14	6	100	303
Montgomery	14,961	20,541	705,531	1,218	1,218	3,019	15,826	10,287	270,118	112	48	796	497
Niagara	6,654	9,136	313,789	1,830	1,830	4,536	9,100	5,915	155,319	145	62	1,031	376
Oneida	23,074	31,681	1,088,124	1,555	1,555	3,854	22,435	14,583	382,921	40	17	284	165

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	D Milking cows	Milking cows	P Milking cows	D Beef cattle	Beef cattle	P Beef cattle	D Other cattle	Other cattle	P Other cattle	D Breeding hogs	Breeding hogs	P Breeding hogs	D Other hogs
	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number
Onondaga	18,231	25,031	859,737	1,031	1,031	2,556	15,813	10,278	269,896	37	16	263	203
Ontario	15,768	21,649	743,587	1,833	1,833	4,543	18,126	11,782	309,375	0	0	0	0
Orange	8,164	11,209	384,998	612	612	1,517	6,801	4,421	116,079	39	17	277	152
Orleans	2,865	3,934	135,108	1,046	1,046	2,593	4,404	2,863	75,167	74	32	526	234
Oswego	5,288	7,260	249,372	1,533	1,533	3,800	6,925	4,501	118,196	210	89	1,493	651
Otsego	16,601	22,793	782,870	2,387	2,387	5,917	18,569	12,070	316,936	66	28	469	210
Rensselaer	5,890	8,087	277,761	1,570	1,570	3,892	6,883	4,474	117,479	138	59	981	341
St. Lawrence	38,018	52,199	1,792,853	3,827	3,827	9,486	34,337	22,319	586,064	268	114	1,905	1,137
Saratoga	6,854	9,411	323,221	982	982	2,434	6,853	4,454	116,967	61	26	434	245
Schenectady	419	575	19,759	455	455	1,128	667	434	11,384	22	9	156	140
Schoharie	7,356	10,100	346,894	1,269	1,269	3,145	7,379	4,796	125,945	43	18	306	372
Schuyler	4,676	6,420	220,511	1,073	1,073	2,660	4,699	3,054	80,203	136	58	967	1,417
Seneca	6,619	9,088	312,139	1,576	1,576	3,906	11,549	7,507	197,118	0	0	0	0
Steuben	20,423	28,041	963,108	5,572	5,572	13,811	25,508	16,580	435,371	436	186	3,100	6,570
Suffolk	0	0	0	0	0	0	183	119	3,123	23	10	164	152
Sullivan	3,948	5,421	186,180	875	875	2,169	4,077	2,650	69,586	17	7	121	189
Tioga	9,104	12,500	429,326	2,130	2,130	5,280	8,829	5,739	150,693	83	35	590	1,882
Tompkins	9,394	12,898	443,002	1,392	1,392	3,450	10,081	6,553	172,063	93	40	661	379
Ulster	984	1,351	46,403	1,260	1,260	3,123	2,790	1,814	47,620	72	31	512	242
Washington	24,810	34,064	1,169,990	1,534	1,534	3,802	26,764	17,397	456,808	308	131	2,190	651
Wayne	6,568	9,018	309,734	1,152	1,152	2,855	10,729	6,974	183,123	344	147	2,446	5,461
Wyoming	49,010	67,291	2,311,214	1,160	1,160	2,875	45,216	29,390	771,747	268	114	1,905	1,214
Yates	10,406	14,287	490,726	1,132	1,132	2,806	11,372	7,392	194,097	29	12	206	2,911

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	Other hogs	P Other hogs	D Breeding turkeys	Breeding turkeys	P Breeding turkeys	D Slaughter turkeys	Slaughter turkeys	P Slaughter turkeys	D Layers	Layers	P Layers	D Broilers	Broilers
	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU
New York State	8,901	243,588	4,671	47	2,519	14,729	295	5,143	3,819,432	11,458	1,456,827	605,111	1,210
Albany	50	1,365	121	1	65	126	3	44	1,197	4	457	691	1
Allegany	0	0	218	2	118	0	0	0	1,182	4	451	1,950	4
Broome	12	332	137	1	74	0	0	0	948	3	362	157	0
Cattaraugus	43	1,177	181	2	98	166	3	58	2,242	7	855	800	2
Cayuga	0	0	361	4	195	420	8	147	102,674	308	39,162	233	0
Chautauqua	68	1,861	207	2	112	379	8	132	2,071	6	790	777	2
Chemung	19	527	0	0	0	50	1	17	2,121	6	809	77	0
Chenango	205	5,613	61	1	33	24	0	8	1,512	5	577	503	1
Clinton	30	811	68	1	37	58	1	20	0	0	0	250	1
Columbia	68	1,864	39	0	21	0	0	0	0	0	0	4,896	10
Cortland	20	540	23	0	12	75	2	26	1,423	4	543	216	0
Delaware	101	2,757	90	1	49	370	7	129	3,752	11	1,431	693	1
Dutchess	39	1,074	0	0	0	3,778	76	1,319	1,901	6	725	11,353	23
Erie	103	2,822	94	1	51	4,325	87	1,510	0	0	0	4,477	9
Essex	0	0	42	0	23	0	0	0	760	2	290	76	0
Franklin	20	554	14	0	8	0	0	0	6,712	20	2,560	0	0
Fulton	0	0	0	0	0	0	0	0	1,261	4	481	195	0
Genesee	0	0	234	2	126	224	4	78	0	0	0	1,362	3
Greene	25	677	0	0	0	0	0	0	0	0	0	166	0
Herkimer	24	647	104	1	56	0	0	0	2,675	8	1,020	0	0
Jefferson	66	1,792	79	1	43	0	0	0	0	0	0	102	0
Lewis	20	544	0	0	0	0	0	0	870	3	332	433	1
Livingston	25	681	84	1	45	0	0	0	1,390	4	530	285	1
Madison	69	1,881	30	0	16	43	1	15	1,214	4	463	643	1
Monroe	38	1,036	0	0	0	0	0	0	1,020	3	389	63	0
Montgomery	62	1,700	354	4	191	341	7	119	1,343	4	512	2,689	5
Niagara	47	1,286	0	0	0	1,321	26	461	0	0	0	1,038	2
Oneida	21	564	0	0	0	0	0	0	2,590	8	988	101	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	Other hogs	P Other hogs	D Breeding turkeys	Breeding turkeys	P Breeding turkeys	D Slaughter turkeys	Slaughter turkeys	P Slaughter turkeys	D Layers	Layers	P Layers	D Broilers	Broilers
	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU
Onondaga	25	694	0	0	0	0	0	0	0	0	0	172	0
Ontario	0	0	73	1	39	184	4	64	0	0	0	144	0
Orange	19	520	24	0	13	0	0	0	0	0	0	448	1
Orleans	29	800	3	0	2	0	0	0	858	3	327	0	0
Oswego	81	2,227	93	1	50	151	3	53	770	2	294	39	0
Otsego	26	718	239	2	129	12	0	4	2,963	9	1,130	1,000	2
Rensselaer	43	1,166	219	2	118	339	7	118	3,693	11	1,409	279	1
St. Lawrence	142	3,889	98	1	53	205	4	72	4,782	14	1,824	1,911	4
Saratoga	31	838	147	1	79	176	4	61	0	0	0	815	2
Schenectady	18	479	82	1	44	0	0	0	0	0	0	398	1
Schoharie	47	1,273	0	0	0	0	0	0	1,369	4	522	630	1
Schuyler	177	4,847	21	0	11	0	0	0	0	0	0	0	0
Seneca	0	0	84	1	45	745	15	260	1,245	4	475	0	0
Steuben	821	22,474	52	1	28	46	1	16	0	0	0	2,973	6
Suffolk	19	520	270	3	146	0	0	0	3,544	11	1,352	0	0
Sullivan	24	647	20	0	11	0	0	0	0	0	0	541,205	1,082
Tioga	235	6,438	104	1	56	277	6	97	2,051	6	782	1,675	3
Tompkins	47	1,296	69	1	37	239	5	83	0	0	0	36	0
Ulster	30	828	168	2	91	261	5	91	5,044	15	1,924	0	0
Washington	81	2,227	0	0	0	0	0	0	2,996	9	1,143	3,750	8
Wayne	683	18,680	16	0	9	28	1	10	0	0	0	81	0
Wyoming	152	4,153	64	1	35	206	4	72	0	0	0	298	1
Yates	364	9,958	280	3	151	0	0	0	3,371	10	1,286	622	1

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	P Broilers lbs	D Hens and pullets number	Hens and pullets AU	P Hens and pullets lbs	D Chickens and pullets number	Chickens and pullets AU	P Chickens and pullets lbs	D Sheep number	Sheep AU	P Sheep lbs	D Horse number	Horse AU	P Horse lbs
New York State	20,544		0	0	1,312,959	2,889	236,989	83,630	8,363	97,120	75,270	82,797	55,798
Albany	23		0	0	272	1	49	2,689	269	3,123	863	949	640
Allegany	66		0	0	0	0	0	2,355	236	2,735	1,573	1,730	1,166
Broome	5		0	0	257	1	46	533	53	619	1,351	1,486	1,001
Cattaraugus	27		0	0	1,331	3	240	946	95	1,099	2,414	2,655	1,789
Cayuga	8		0	0	83,969	185	15,156	1,489	149	1,729	1,346	1,481	998
Chautauqua	26		0	0	747	2	135	891	89	1,035	2,243	2,467	1,663
Chemung	3		0	0	161	0	29	1,271	127	1,476	991	1,090	735
Chenango	17		0	0	389	1	70	2,147	215	2,493	1,678	1,846	1,244
Clinton	8		0	0	0	0	0	335	34	389	917	1,009	680
Columbia	166		0	0	0	0	0	2,141	214	2,486	1,429	1,572	1,059
Cortland	7		0	0	182	0	33	2,379	238	2,763	910	1,001	675
Delaware	24		0	0	844	2	152	1,926	193	2,237	1,327	1,460	984
Dutchess	385		0	0	443	1	80	2,377	238	2,760	3,201	3,521	2,373
Erie	152		0	0	0	0	0	2,468	247	2,866	3,229	3,552	2,394
Essex	3		0	0	115	0	21	150	15	174	572	629	424
Franklin	0		0	0	0	0	0	1,204	120	1,398	564	620	418
Fulton	7		0	0	203	0	37	1,010	101	1,173	684	752	507
Genesee	46		0	0	0	0	0	3,568	357	4,144	1,271	1,398	942
Greene	6		0	0	0	0	0	1,055	106	1,225	663	729	491
Herkimer	0		0	0	641	1	116	1,721	172	1,999	1,017	1,119	754
Jefferson	3		0	0	111	0	20	1,219	122	1,416	1,318	1,450	977
Lewis	15		0	0	174	0	31	359	36	417	689	758	511
Livingston	10		0	0	336	1	61	2,962	296	3,440	1,745	1,920	1,294
Madison	22		0	0	262	1	47	2,891	289	3,357	1,313	1,444	973
Monroe	2		0	0	114	0	21	1,532	153	1,779	1,941	2,135	1,439
Montgomery	91		0	0	480	1	87	2,902	290	3,370	977	1,075	724
Niagara	35		0	0	134	0	24	894	89	1,038	1,698	1,868	1,259
Oneida	3		0	0	552	1	100	1,255	126	1,457	2,006	2,207	1,487

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	P Broilers	D Hens and pullets	Hens and pullets	P Hens and pullets	D Chickens and pullets	Chickens and pullets	P Chickens and pullets	D Sheep	Sheep	P Sheep	D Horse	Horse	P Horse
	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs
Onondaga	6		0	0	0	0	0	658	66	764	1,987	2,186	1,473
Ontario	5		0	0	0	0	0	2,434	243	2,827	2,023	2,225	1,500
Orange	15		0	0	0	0	0	635	64	737	2,801	3,081	2,076
Orleans	0		0	0	185	0	33	369	37	429	960	1,056	712
Oswego	1		0	0	242	1	44	349	35	405	1,130	1,243	838
Otsego	34		0	0	676	1	122	2,932	293	3,405	1,902	2,092	1,410
Rensselaer	9		0	0	272	1	49	4,843	484	5,624	910	1,001	675
St. Lawrence	65		0	0	1,340	3	242	3,373	337	3,917	2,304	2,534	1,708
Saratoga	28		0	0	0	0	0	571	57	663	2,195	2,415	1,627
Schenectady	14		0	0	0	0	0	272	27	316	478	526	354
Schoharie	21		0	0	273	1	49	1,323	132	1,536	871	958	646
Schuyler	0		0	0	254	1	46	2,899	290	3,367	695	765	515
Seneca	0		0	0	0	0	0	1,980	198	2,299	669	736	496
Steuben	101		0	0	0	0	0	2,180	218	2,532	2,710	2,981	2,009
Suffolk	0		0	0	1,146	3	207	182	18	211	1,391	1,530	1,031
Sullivan	18,374		0	0	0	0	0	1,010	101	1,173	1,087	1,196	806
Tioga	57		0	0	772	2	139	1,207	121	1,402	1,228	1,351	910
Tompkins	1		0	0	0	0	0	2,479	248	2,879	1,813	1,994	1,344
Ulster	0		0	0	1,732	4	313	664	66	771	1,816	1,998	1,346
Washington	127		0	0	367	1	66	3,251	325	3,775	1,573	1,730	1,166
Wayne	3		0	0	0	0	0	805	81	935	1,236	1,360	916
Wyoming	10		0	0	201	0	36	788	79	915	1,022	1,124	758
Yates	21		0	0	235	1	42	1,217	122	1,413	756	832	560

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	D Fertilizer	P Fertilizer	Fertilized cropland	Manured cropland	Harvested cropland	D Corn grain	P Corn grain	Corn grain	Yield Corn grain	D Corn silage	P Corn silage	Corn silage	Yield Corn silage
	tons P ₂ O ₅	lbs P	acres	acres	acres	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre
New York State	32,104	28,059,180	2,214,642	1,196,377	3,846,368	42,767,720	6,415,158	450,664	94.9	7,454,405	12,120,863	543,579	13.7
Albany	103	89,611	8,971	4,274	31,500	122,990	18,449	1,506	81.7	31,920	51,902	2,786	11.5
Allegany	165	143,811	26,933	14,369	68,542	396,596	59,489	4,035	98.3	124,951	203,170	8,495	14.7
Broome	31	27,033	14,077	15,760	40,318	233,629	35,044	2,166	107.9	57,880	94,113	4,911	11.8
Cattaraugus	198	173,142	31,150	29,119	77,030	637,113	95,567	5,566	114.5	213,436	347,047	13,174	16.2
Cayuga	2,059	1,799,170	113,583	38,185	154,704	3,277,497	491,625	35,661	91.9	335,526	545,565	24,215	13.9
Chautauqua	628	548,511	69,230	39,112	116,154	996,359	149,454	8,986	110.9	237,578	386,302	14,956	15.9
Chemung	146	127,912	10,723	7,033	25,982	187,725	28,159	2,097	89.5	30,027	48,824	2,749	10.9
Chenango	169	147,374	36,122	40,760	78,715	342,097	51,315	3,715	92.1	160,702	261,301	11,384	14.1
Clinton	368	321,948	38,735	32,264	69,124	537,190	80,579	4,376	122.8	189,279	307,768	13,334	14.2
Columbia	411	359,592	37,165	17,892	61,490	518,436	77,765	6,123	84.7	138,941	225,918	9,881	14.1
Cortland	275	240,750	26,442	15,451	53,033	310,529	46,579	4,247	73.1	101,069	164,338	8,038	12.6
Delaware	202	176,141	28,600	27,339	66,875	153,862	23,079	1,900	81.0	88,413	143,760	6,315	14.0
Dutchess	380	332,498	20,865	6,431	43,528	563,282	84,492	5,819	96.8	49,872	81,092	3,586	13.9
Erie	784	684,812	61,357	33,160	85,767	659,379	98,907	6,416	102.8	236,848	385,115	14,643	16.2
Essex	36	31,093	5,281	5,681	18,644	0	0	0	0.0	18,485	30,057	2,903	6.4
Franklin	316	276,480	30,244	30,707	60,827	189,320	28,398	1,621	116.8	140,192	227,952	10,328	13.6
Fulton	57	49,584	7,191	7,541	16,856	81,570	12,236	813	100.3	30,069	48,892	2,386	12.6
Genesee	1,837	1,605,671	92,884	30,634	125,553	2,187,615	328,142	22,215	98.5	352,385	572,978	25,028	14.1
Greene	99	86,437	7,183	3,875	24,254	71,702	10,755	946	75.8	5,038	8,192	550	9.2
Herkimer	239	209,243	20,090	34,317	70,890	459,719	68,958	4,370	105.2	138,051	224,471	10,854	12.7
Jefferson	695	607,647	53,258	61,557	181,484	1,202,367	180,355	10,693	112.4	362,767	589,859	26,372	13.8
Lewis	723	632,187	57,091	51,842	97,402	347,211	52,082	3,880	89.5	270,439	439,734	18,551	14.6
Livingston	1,345	1,175,573	87,081	27,638	125,344	2,954,465	443,170	26,197	112.8	284,563	462,699	19,096	14.9
Madison	661	577,915	41,249	38,620	86,164	1,019,147	152,872	10,552	96.6	229,628	373,375	16,616	13.8
Monroe	773	675,471	63,228	2,810	66,532	1,356,566	203,485	15,219	89.1	29,221	47,513	2,698	10.8
Montgomery	563	492,106	48,075	25,158	91,811	909,321	136,398	9,433	96.4	168,320	273,688	13,333	12.6
Niagara	1,242	1,085,833	71,223	14,677	95,331	2,095,687	314,353	24,988	83.9	91,554	148,867	7,058	13.0
Oneida	777	678,820	48,310	38,943	111,320	1,797,649	269,647	18,270	98.4	231,568	376,530	17,043	13.6

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	D Fertilizer	P Fertilizer	Fertilized cropland	Manured cropland	Harvested cropland	D Corn grain	P Corn grain	Corn grain	Yield Corn grain	D Corn silage	P Corn silage	Corn silage	Yield Corn silage
	tons P ₂ O ₅	lbs P	acres	acres	acres	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre
Onondaga	1,215	1,062,331	66,993	34,938	98,044	2,406,048	360,907	24,987	96.3	219,941	357,624	15,643	14.1
Ontario	2,321	2,028,684	109,451	26,520	121,288	2,080,279	312,042	25,367	82.0	157,517	256,123	13,179	12.0
Orange	573	500,489	27,695	13,325	54,654	186,958	28,044	2,353	79.5	89,548	145,605	7,557	11.8
Orleans	1,156	1,010,574	79,564	5,655	92,204	2,160,153	324,023	23,175	93.2	37,398	60,809	3,208	11.7
Oswego	501	437,869	19,005	10,965	41,738	268,262	40,239	2,930	91.6	52,583	85,500	3,941	13.3
Otsego	503	439,909	38,025	36,344	85,894	486,574	72,986	5,368	90.6	173,213	281,644	12,538	13.8
Rensselaer	555	485,435	19,588	7,189	43,804	633,637	95,046	6,220	101.9	72,067	117,181	5,205	13.8
St. Lawrence	730	638,379	80,231	76,096	173,033	251,229	37,684	3,029	82.9	379,721	617,426	31,698	12.0
Saratoga	137	119,452	25,631	14,928	36,161	410,602	61,590	3,733	110.0	96,937	157,620	6,367	15.2
Schenectady	19	16,300	2,633	2,379	9,051	0	0	0	0.0	3,333	5,419	261	12.8
Schoharie	96	84,110	19,239	16,935	57,030	545,726	81,859	4,494	121.4	71,194	115,761	5,352	13.3
Schuyler	39	33,923	10,876	6,407	28,302	370,858	55,629	2,914	127.3	46,927	76,303	3,797	12.4
Seneca	536	468,850	69,812	12,115	86,509	1,806,863	271,029	21,876	82.6	70,843	115,191	6,901	10.3
Steuben	1,640	1,433,642	74,696	38,197	177,644	1,481,506	222,226	16,660	88.9	244,824	398,084	18,503	13.2
Suffolk	477	416,703	18,846	447	21,787	102,278	15,342	1,146	89.2	0	0	0	0.0
Sullivan	111	97,117	11,514	19,622	26,541	26,627	3,994	370	72.0	11,970	19,463	1,324	9.0
Tioga	204	178,027	50,590	27,343	55,922	193,285	28,993	2,279	84.8	69,377	112,807	7,474	9.3
Tompkins	277	242,052	29,851	17,815	53,108	704,042	105,606	8,269	85.1	84,662	137,660	6,624	12.8
Ulster	93	80,967	20,196	4,114	31,516	138,114	20,717	1,559	88.6	16,112	26,198	1,159	13.9
Washington	481	420,529	62,409	33,767	103,753	705,535	105,830	7,355	95.9	331,447	538,933	25,243	13.1
Wayne	1,151	1,005,727	75,258	11,363	98,793	2,067,740	310,161	24,092	85.8	75,709	123,103	6,198	12.2
Wyoming	1,302	1,138,003	98,508	65,351	133,091	1,224,895	183,734	10,188	120.2	695,320	1,130,590	41,376	16.8
Yates	265	231,945	45,254	18,533	66,423	836,481	125,472	9,919	84.3	100,628	163,621	8,412	12.0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	D Sorghum grain	P Sorghum grain	Sorghum grain	Yield Sorghum grain	D Sorghum forage	P Sorghum forage	Sorghum forage	Yield Sorghum forage	D Barley	P Barley	Barley	Yield Barley	D Buckwheat
	bushels	lbs	acres	bu/acre	Tons	lbs	acres	tons/acre	bushels	lbs	acres	bu/acre	bushels
New York State	14,067	2,532	562	25.0	36,879	89,985	4,189	8.8	589,695	106,145	12,569	46.9	
Albany	0	0	0	0.0	1,499	3,658	136	11.0	0	0	0	0.0	
Allegany	0	0	0	0.0	2,840	6,930	235	12.1	45,921	8,266	1,133	40.5	
Broome	1,700	306	30	56.7	600	1,464	54	11.1	0	0	0	0.0	
Cattaraugus	0	0	0	0.0	1,595	3,892	148	10.8	523	94	24	21.8	
Cayuga	0	0	0	0.0	415	1,013	68	6.1	45,651	8,217	972	47.0	
Chautauqua	0	0	0	0.0	1,663	4,058	85	19.6	3,859	695	88	43.9	
Chemung	0	0	0	0.0	0	0	0	0.0	592	107	20	29.6	
Chenango	0	0	0	0.0	1,307	3,189	85	15.4	10,470	1,885	218	48.0	
Clinton	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	
Columbia	640	115	22	29.1	0	0	0	0.0	7,282	1,311	168	43.3	
Cortland	0	0	0	0.0	719	1,754	118	6.1	10,141	1,825	228	44.5	
Delaware	0	0	0	0.0	561	1,369	52	10.8	0	0	0	0.0	
Dutchess	0	0	0	0.0	0	0	0	0.0	845	152	30	28.2	
Erie	0	0	0	0.0	0	0	0	0.0	14,300	2,574	357	40.1	
Essex	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	
Franklin	0	0	0	0.0	439	1,071	105	4.2	0	0	0	0.0	
Fulton	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	
Genesee	0	0	0	0.0	0	0	0	0.0	22,805	4,105	375	60.8	
Greene	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	
Herkimer	0	0	0	0.0	110	268	15	7.3	8,290	1,492	156	53.1	
Jefferson	0	0	0	0.0	5,668	13,830	813	7.0	29,258	5,266	637	45.9	
Lewis	0	0	0	0.0	0	0	66	0.0	16,064	2,892	301	53.4	
Livingston	0	0	0	0.0	162	395	56	2.9	12,198	2,196	348	35.1	
Madison	1,500	270	29	51.7	450	1,098	46	9.8	20,782	3,741	371	56.0	
Monroe	0	0	0	0.0	42	102	21	2.0	0	0	0	0.0	
Montgomery	1,189	214	104	11.4	112	273	34	3.3	13,235	2,382	233	56.8	
Niagara	0	0	0	0.0	185	451	17	10.9	9,642	1,736	348	27.7	
Oneida	0	0	0	0.0	177	432	51	3.5	10,646	1,916	180	59.1	

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	D Sorghum grain	P Sorghum grain	Sorghum grain	Yield Sorghum grain	D Sorghum forage	P Sorghum forage	Sorghum forage	Yield Sorghum forage	D Barley	P Barley	Barley	Yield Barley	D Buckwheat
	bushels	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels
Onondaga	0	0	0	0.0	0	0	0	0.0	39,584	7,125	774	51.1	
Ontario	0	0	0	0.0	0	0	0	0.0	47,263	8,507	976	48.4	
Orange	0	0	0	0.0	0	0	60	0.0	0	0	0	0.0	
Orleans	0	0	0	0.0	0	0	0	0.0	5,356	964	137	39.1	
Oswego	0	0	0	0.0	481	1,174	67	7.2	4,497	809	88	51.1	
Otsego	0	0	0	0.0	0	0	0	0.0	20,958	3,772	367	57.1	
Rensselaer	0	0	0	0.0	0	0	0	0.0	6,226	1,121	102	61.0	
St. Lawrence	0	0	0	0.0	1,851	4,516	403	4.6	4,160	749	96	43.3	
Saratoga	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	
Schenectady	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	
Schoharie	0	0	0	0.0	200	488	67	3.0	0	0	145	0.0	
Schuyler	0	0	0	0.0	0	0	0	0.0	11,473	2,065	198	57.9	
Seneca	252	45	30	8.4	0	0	0	0.0	42,905	7,723	896	47.9	
Steuben	0	0	0	0.0	1,324	3,231	160	8.3	38,381	6,909	699	54.9	
Suffolk	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	
Sullivan	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	
Tioga	122	22	16	7.6	1,198	2,923	181	6.6	2,394	431	76	31.5	
Tompkins	0	0	0	0.0	1,146	2,796	134	8.6	7,055	1,270	292	24.2	
Ulster	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	
Washington	0	0	0	0.0	1,724	4,207	142	12.1	2,256	406	64	35.3	
Wayne	0	0	0	0.0	0	0	0	0.0	8,804	1,585	255	34.5	
Wyoming	0	0	0	0.0	745	1,818	122	6.1	4,920	886	100	49.2	
Yates	0	0	0	0.0	0	0	0	0.0	45,078	8,114	965	46.7	

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	P Buckwheat	Buckwheat	Yield Buckwheat	D Oats	P Oats	Oats	Yield Oats	D Rye	P Rye	Rye	Yield Rye	D Wheat	P Wheat
	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs
New York State	0		0.0	4,138,239	455,206	67,032	61.7	10,668	1,920	334,678	0.0	6,639,707	1,327,941
Albany	0		0.0	12,070	1,328	274	44.1	4,146	746	152	27.3	8,004	1,601
Allegany	0		0.0	71,720	7,889	1,448	49.5	2,600	468	52	50.0	25,428	5,086
Broome	0		0.0	16,254	1,788	322	50.5	0	0	34	0.0	0	0
Cattaraugus	0		0.0	100,689	11,076	1,664	60.5	1,600	288	67	23.9	17,789	3,558
Cayuga	0		0.0	205,706	22,628	3,265	63.0	19,063	3,431	664	28.7	413,445	82,689
Chautauqua	0		0.0	56,437	6,208	997	56.6	7,301	1,314	223	32.7	18,715	3,743
Chemung	0		0.0	50,996	5,610	836	61.0	2,545	458	70	36.4	6,611	1,322
Chenango	0		0.0	56,710	6,238	1,066	53.2	6,878	1,238	186	37.0	0	0
Clinton	0		0.0	17,190	1,891	267	64.4	0	0	0	0.0	0	0
Columbia	0		0.0	15,567	1,712	302	51.5	10,383	1,869	349	29.8	41,202	8,240
Cortland	0		0.0	24,334	2,677	397	61.3	4,538	817	150	30.3	6,114	1,223
Delaware	0		0.0	3,112	342	0	0.0	0	0	0	0.0	0	0
Dutchess	0		0.0	29,067	3,197	549	52.9	3,301	594	139	23.7	6,350	1,270
Erie	0		0.0	97,473	10,722	1,551	62.8	10,074	1,813	381	26.4	96,192	19,238
Essex	0		0.0	10,845	1,193	210	51.6	0	0	0	0.0	6,740	1,348
Franklin	0		0.0	41,330	4,546	685	60.3	8,571	1,543	301	28.5	0	0
Fulton	0		0.0	4,161	458	91	45.7	0	0	0	0.0	0	0
Genesee	0		0.0	112,996	12,430	1,606	70.4	17,623	3,172	491	35.9	654,124	130,825
Greene	0		0.0	3,751	413	105	35.7	0	0	0	0.0	0	0
Herkimer	0		0.0	88,790	9,767	1,402	63.3	0	0	21	0.0	0	0
Jefferson	0		0.0	85,410	9,395	1,757	48.6	5,669	1,020	154	36.8	19,819	3,964
Lewis	0		0.0	41,756	4,593	852	49.0	0	0	0	0.0	1,610	322
Livingston	0		0.0	148,507	16,336	2,052	72.4	15,666	2,820	544	28.8	817,786	163,557
Madison	0		0.0	120,403	13,244	2,226	54.1	3,193	575	95	33.6	62,868	12,574
Monroe	0		0.0	66,029	7,263	1,070	61.7	12,090	2,176	296	40.8	680,875	136,175
Montgomery	0		0.0	55,604	6,116	1,148	48.4	8,261	1,487	346	23.9	16,422	3,284
Niagara	0		0.0	179,266	19,719	2,698	66.4	3,382	609	100	33.8	480,459	96,092
Oneida	0		0.0	221,341	24,348	3,489	63.4	3,285	591	96	34.2	85,271	17,054

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	P Buckwheat	Buckwheat	Yield Buckwheat	D Oats	P Oats	Oats	Yield Oats	D Rye	P Rye	Rye	Yield Rye	D Wheat	P Wheat
	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs
Onondaga	0		0.0	245,509	27,006	3,937	62.4	18,489	3,328	371	49.8	258,032	51,606
Ontario	0		0.0	207,303	22,803	3,245	63.9	25,474	4,585	713	35.7	724,374	144,875
Orange	0		0.0	12,531	1,378	329	38.1	1,024	184	38	26.9	995	199
Orleans	0		0.0	51,950	5,715	708	73.4	4,660	839	168	27.7	692,282	138,456
Oswego	0		0.0	20,407	2,245	433	47.1	0	0	0	0.0	2,490	498
Otsego	0		0.0	50,035	5,504	1,170	42.8	4,443	800	157	28.3	4,180	836
Rensselaer	0		0.0	19,580	2,154	437	44.8	10,583	1,905	309	34.2	0	0
St. Lawrence	0		0.0	34,641	3,811	676	51.2	0	0	0	0.0	2,964	593
Saratoga	0		0.0	16,954	1,865	306	55.4	9,394	1,691	259	36.3	4,399	880
Schenectady	0		0.0	20,407	2,245	223	91.5	0	0	0	0.0	0	0
Schoharie	0		0.0	23,533	2,589	380	61.9	780	140	36	21.7	2,753	551
Schuyler	0		0.0	60,222	6,624	953	63.2	4,396	791	155	28.4	30,662	6,132
Seneca	0		0.0	176,190	19,381	2,380	74.0	9,388	1,690	200	46.9	478,598	95,720
Steuben	0		0.0	775,339	85,287	11,531	67.2	13,955	2,512	420	33.2	123,064	24,613
Suffolk	0		0.0	7,350	809	137	53.6	29,228	5,261	1,030	28.4	9,465	1,893
Sullivan	0		0.0	0	0	0	0.0	136	24	13	10.5	0	0
Tioga	0		0.0	47,541	5,230	896	53.1	0	0	0	0.0	0	0
Tompkins	0		0.0	109,537	12,049	1,788	61.3	8,225	1,481	295	27.9	78,237	15,647
Ulster	0		0.0	10,519	1,157	164	64.1	7,173	1,291	130	55.2	0	0
Washington	0		0.0	9,613	1,057	188	51.1	6,285	1,131	275	22.9	10,950	2,190
Wayne	0		0.0	129,227	14,215	1,871	69.1	5,580	1,004	228	24.5	272,545	54,509
Wyoming	0		0.0	105,872	11,646	1,900	55.7	6,016	1,083	255	23.6	165,244	33,049
Yates	0		0.0	66,125	7,274	968	68.3	12,452	2,241	532	23.4	295,179	59,036

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	Wheat	Yield Wheat	D Soy	P Soy	Soy	Yield Soy	D Potatoes	P Potatoes	Potatoes	Yield Potatoes	D Dry beans	P Dry beans	Dry beans
	acres	bu/acre	bushels	lbs	acres	bu/acre	cwt	lbs	acres	cwt/acre	cwt	lbs	acres
New York State	115,680	57.4	4,472,702	1,610,173	139,435	32.1	5,482,769	328,966	22,094	248.2	444,691	217,899	32,520
Albany	199	40.2	0	0	0	0.0	368	22	1	368.0	0	0	0
Allegany	447	56.9	6,250	2,250	147	42.5	198,592	11,916	838	237.0	0	0	0
Broome	0	0.0	0	0	0	0.0	0	0	0	0.0	0	0	0
Cattaraugus	338	52.6	0	0	0	0.0	1,227	74	4	306.8	0	0	0
Cayuga	7,124	58.0	747,108	268,959	23,064	32.4	0	0	0	0.0	12,275	6,015	983
Chautauqua	338	55.4	36,982	13,314	1,034	35.8	2,619	157	20	131.0	0	0	0
Chemung	121	54.6	0	0	0	0.0	520	31	5	104.0	500	245	74
Chenango	0	0.0	14,460	5,206	401	36.1	1,553	93	7	221.9	0	0	0
Clinton	0	0.0	71,319	25,675	1,584	45.0	14,378	863	77	186.7	0	0	0
Columbia	722	57.1	62,185	22,387	1,827	34.0	0	0	0	0.0	0	0	0
Cortland	150	40.8	17,549	6,318	444	39.5	222	13	4	55.5	0	0	0
Delaware	0	0.0	0	0	0	0.0	7,712	463	39	197.7	0	0	0
Dutchess	222	28.6	0	0	0	0.0	5,681	341	32	177.5	0	0	0
Erie	1,997	48.2	70,284	25,302	2,148	32.7	128,817	7,729	576	223.6	2,270	1,112	287
Essex	153	44.1	0	0	0	0.0	0	0	0	0.0	0	0	0
Franklin	0	0.0	14,859	5,349	462	32.2	187,818	11,269	839	223.9	0	0	0
Fulton	0	0.0	0	0	0	0.0	110	7	1	110.0	0	0	0
Genesee	10,689	61.2	149,201	53,712	4,507	33.1	0	0	406	0.0	42,856	20,999	2,618
Greene	0	0.0	0	0	0	0.0	6,034	362	63	95.8	0	0	0
Herkimer	0	0.0	10,126	3,645	236	42.9	0	0	0	0.0	0	0	0
Jefferson	392	50.6	52,029	18,730	2,397	21.7	0	0	0	0.0	0	0	0
Lewis	34	47.4	4,644	1,672	170	27.3	0	0	3	0.0	0	0	0
Livingston	14,296	57.2	168,765	60,755	4,851	34.8	174,070	10,444	728	239.1	136,350	66,812	10,698
Madison	1,165	54.0	27,047	9,737	780	34.7	0	0	0	0.0	0	0	0
Monroe	12,401	54.9	160,387	57,739	5,548	28.9	20,866	1,252	174	119.9	78,435	38,433	5,421
Montgomery	244	67.3	83,213	29,957	2,321	35.9	0	0	0	0.0	0	0	3
Niagara	8,532	56.3	229,099	82,476	7,145	32.1	6,494	390	40	162.4	1,148	563	159
Oneida	1,499	56.9	90,290	32,504	2,257	40.0	24,879	1,493	114	218.2	0	0	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	Wheat	Yield Wheat	D Soy	P Soy	Soy	Yield Soy	D Potatoes	P Potatoes	Potatoes	Yield Potatoes	D Dry beans	P Dry beans	Dry beans
	acres	bu/acre	bushels	lbs	acres	bu/acre	cwt	lbs	acres	cwt/acre	cwt	lbs	acres
Onondaga	4,492	57.4	256,680	92,405	6,953	36.9	5,377	323	36	149.4	4,075	1,997	340
Ontario	12,480	58.0	311,670	112,201	10,657	29.2	0	0	0	0.0	54,447	26,679	4,559
Orange	29	34.3	326	117	10	32.6	23,250	1,395	133	174.8	20	10	10
Orleans	11,387	60.8	529,129	190,486	16,393	32.3	187,631	11,258	801	234.2	0	0	0
Oswego	61	40.8	18,487	6,655	547	33.8	112,653	6,759	609	185.0	3,422	1,677	242
Otsego	65	64.3	14,872	5,354	368	40.4	2,550	153	22	115.9	0	0	0
Rensselaer	0	0.0	0	0	0	0.0	0	0	0	0.0	0	0	0
St. Lawrence	62	47.8	10,780	3,881	523	20.6	0	0	0	0.0	0	0	0
Saratoga	96	45.8	15,080	5,429	451	33.4	0	0	2	0.0	0	0	0
Schenectady	0	0.0	0	0	0	0.0	4	0	0	0.0	40	20	4
Schoharie	47	58.6	4,756	1,712	111	42.8	32,076	1,925	102	314.5	0	0	0
Schuyler	517	59.3	0	0	0	0.0	262	16	3	87.3	0	0	0
Seneca	7,775	61.6	549,147	197,693	19,327	28.4	142	9	3	47.3	6,492	3,181	525
Steuben	2,057	59.8	38,871	13,994	951	40.9	1,114,345	66,861	4,458	250.0	15,801	7,742	1,108
Suffolk	213	44.4	0	0	0	0.0	918,920	55,135	3,248	282.9	174	85	31
Sullivan	0	0.0	0	0	0	0.0	5,998	360	38	157.8	0	0	0
Tioga	0	0.0	0	0	0	0.0	0	0	0	0.0	0	0	0
Tompkins	1,749	44.7	54,471	19,610	1,758	31.0	8,370	502	31	270.0	0	0	0
Ulster	0	0.0	0	0	0	0.0	329	20	20	16.5	0	0	0
Washington	285	38.4	16,177	5,824	432	37.4	59,680	3,581	202	295.4	0	0	0
Wayne	5,090	53.5	484,484	174,414	14,434	33.6	413,975	24,839	1,846	224.3	36,727	17,996	2,018
Wyoming	2,961	55.8	15,053	5,419	520	28.9	1,284,804	77,088	4,505	285.2	15,159	7,428	873
Yates	4,910	60.1	50,726	18,261	1,978	25.6	3,489	209	37	94.3	15,371	7,532	1,196

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	Yield Dry beans	D Alfalfa	P Alfalfa	Alfalfa	Yield Alfalfa	D Haylage	P Haylage	Haylage	Yield Haylage	D Other hay	P Other hay	Other hay	Yield Other hay
	cwt/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
New York State	13.7	1,598,411	7,544,500	657,019	2.4	4,508,730	4,024,042	708,966	6.4	1,549,980	10,167,869	829,621	1.9
Albany	0.0	11,325	53,454	7,036	1.6	18,962	16,924	2,504	7.6	17,344	113,777	11,395	1.5
Allegany	0.0	19,008	89,718	9,279	2.0	85,236	76,073	12,826	6.6	48,086	315,444	25,992	1.9
Broome	0.0	9,631	45,458	4,787	2.0	43,154	38,515	9,777	4.4	23,140	151,798	14,914	1.6
Cattaraugus	0.0	27,241	128,578	11,354	2.4	100,464	89,664	15,214	6.6	51,811	339,880	24,868	2.1
Cayuga	12.5	80,897	381,834	30,826	2.6	134,644	120,170	21,947	6.1	12,996	85,254	6,276	2.1
Chautauqua	0.0	16,711	78,876	7,134	2.3	186,336	166,305	27,640	6.7	69,083	453,184	32,967	2.1
Chemung	6.8	9,270	43,754	4,140	2.2	20,994	18,737	4,205	5.0	16,191	106,213	9,743	1.7
Chenango	0.0	34,505	162,864	14,009	2.5	104,715	93,458	19,521	5.4	43,288	283,969	23,265	1.9
Clinton	0.0	28,318	133,661	10,485	2.7	134,126	119,707	22,245	6.0	28,025	183,844	14,529	1.9
Columbia	0.0	26,460	124,891	11,840	2.2	73,294	65,415	11,322	6.5	24,311	159,480	11,666	2.1
Cortland	0.0	21,727	102,551	8,918	2.4	95,889	85,581	15,222	6.3	29,260	191,946	15,556	1.9
Delaware	0.0	29,588	139,655	13,222	2.2	68,279	60,939	12,912	5.3	45,327	297,345	26,037	1.7
Dutchess	0.0	29,265	138,131	13,069	2.2	26,894	24,003	3,724	7.2	16,568	108,686	11,505	1.4
Erie	7.9	32,698	154,335	12,065	2.7	132,234	118,019	18,651	7.1	48,251	316,527	21,375	2.3
Essex	0.0	13,356	63,040	6,015	2.2	23,237	20,739	2,631	8.8	12,116	79,481	4,891	2.5
Franklin	0.0	21,688	102,367	10,056	2.2	95,594	85,318	15,802	6.0	35,610	233,602	18,263	1.9
Fulton	0.0	7,705	36,368	3,990	1.9	23,610	21,072	5,612	4.2	8,211	53,864	4,746	1.7
Genesee	16.4	52,873	249,561	17,515	3.0	179,918	160,577	19,661	9.2	9,220	60,483	4,123	2.2
Greene	0.0	8,720	41,158	4,996	1.7	4,242	3,786	1,558	2.7	9,501	62,327	7,026	1.4
Herkimer	0.0	49,713	234,645	22,203	2.2	105,450	94,114	20,264	5.2	27,388	179,665	16,530	1.7
Jefferson	0.0	52,994	250,132	26,868	2.0	237,340	211,826	39,752	6.0	122,386	802,852	67,815	1.8
Lewis	0.0	57,243	270,187	19,069	3.0	212,228	189,413	30,852	6.9	57,466	376,977	25,513	2.3
Livingston	12.7	48,870	230,666	18,801	2.6	138,568	123,672	16,876	8.2	19,811	129,960	8,588	2.3
Madison	0.0	75,248	355,171	27,186	2.8	139,834	124,802	22,747	6.1	15,895	104,271	9,620	1.7
Monroe	14.5	17,860	84,299	7,519	2.4	15,762	14,068	2,360	6.7	3,304	21,674	1,946	1.7
Montgomery	0.0	64,459	304,246	27,379	2.4	89,797	80,144	15,516	5.8	46,963	308,077	24,918	1.9
Niagara	7.2	42,634	201,232	14,169	3.0	43,462	38,790	6,545	6.6	22,079	144,838	10,213	2.2
Oneida	0.0	67,040	316,429	26,766	2.5	114,657	102,331	21,849	5.2	45,019	295,325	19,377	2.3

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	Yield Dr beans	D Alfalfa	P Alfalfa	Alfalfa	Yield Alfalfa	D Haylage	P Haylage	Haylage	Yield Haylage	D Other hay	P Other hay	Other hay	Yield Other hay
	cwt/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
Onondaga	12.0	43,266	204,216	16,623	2.6	134,934	120,429	17,298	7.8	15,054	98,754	7,396	2.0
Ontario	11.9	57,756	272,608	21,567	2.7	109,088	97,361	13,171	8.3	14,129	92,686	6,787	2.1
Orange	2.0	24,886	117,462	9,577	2.6	35,375	31,572	8,370	4.2	23,263	152,605	14,489	1.6
Orleans	0.0	19,355	91,356	6,437	3.0	22,763	20,316	3,330	6.8	0	0	3,139	0.0
Oswego	14.1	13,416	63,324	6,181	2.2	33,146	29,583	5,801	5.7	20,428	134,008	12,565	1.6
Otsego	0.0	53,546	252,737	23,367	2.3	90,591	80,852	17,890	5.1	36,754	241,106	23,561	1.6
Rensselaer	0.0	23,990	113,233	9,869	2.4	29,826	26,620	6,248	4.8	21,394	140,345	11,790	1.8
St. Lawrence	0.0	47,022	221,944	20,301	2.3	242,525	216,454	42,618	5.7	130,364	855,188	70,138	1.9
Saratoga	0.0	15,090	71,225	7,225	2.1	53,709	47,935	6,735	8.0	14,216	93,257	7,320	1.9
Schenectady	10.0	1,802	8,505	1,264	1.4	1,852	1,653	569	3.3	6,021	39,498	4,333	1.4
Schoharie	0.0	33,654	158,847	16,327	2.1	39,442	35,202	9,262	4.3	34,605	227,009	19,734	1.8
Schuyler	0.0	14,690	69,337	6,217	2.4	24,462	21,832	4,475	5.5	9,354	61,362	6,788	1.4
Seneca	12.4	29,701	140,189	13,324	2.2	34,925	31,171	5,136	6.8	14,747	96,740	7,740	1.9
Steuben	14.3	64,286	303,430	27,244	2.4	148,447	132,489	28,301	5.2	99,139	650,352	56,883	1.7
Suffolk	5.6	0	0	233	0.0	0	0	0	0.0	419	2,749	163	2.6
Sullivan	0.0	2,854	13,471	1,911	1.5	20,280	18,100	5,283	3.8	18,638	122,265	11,885	1.6
Tioga	0.0	16,173	76,337	7,416	2.2	73,124	65,263	14,175	5.2	31,304	205,354	19,250	1.6
Tompkins	0.0	27,241	128,578	8,824	3.1	62,026	55,358	9,747	6.4	22,146	145,278	11,883	1.9
Ulster	0.0	9,113	43,013	3,472	2.6	6,631	5,918	1,755	3.8	19,096	125,270	8,830	2.2
Washington	0.0	34,889	164,676	16,623	2.1	240,851	214,960	31,338	7.7	51,676	338,995	26,341	2.0
Wayne	18.2	28,628	135,124	10,700	2.7	38,427	34,296	4,090	9.4	7,548	49,515	3,477	2.2
Wyoming	17.4	45,523	214,869	16,385	2.8	356,277	317,977	42,709	8.3	30,551	200,415	13,869	2.2
Yates	12.9	33,290	157,129	14,596	2.3	59,060	52,711	10,354	5.7	11,290	74,062	6,050	1.9

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	D Small grain hay	P Small grain hay	Small grain hay	Yield Small grain hay	D Wild hay	P Wild hay	Wild hay	Yield Wild hay
	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
New York State	86,971	389,630	45,958	1.9	253,929	1,665,774	188,120	1.3
Albany	721	3,230	527	1.4	5,399	35,417	4,288	1.3
Allegany	2,539	11,375	674	3.8	5,842	38,324	4,478	1.3
Broome	3,006	13,467	985	3.1	3,622	23,760	3,320	1.1
Cattaraugus	1,788	8,010	1,463	1.2	4,946	32,446	4,500	1.1
Cayuga	3,752	16,809	2,271	1.7	903	5,924	716	1.3
Chautauqua	842	3,772	429	2.0	10,219	67,037	6,436	1.6
Chemung	152	681	123	1.2	2,643	17,338	2,489	1.1
Chenango	4,587	20,550	1,639	2.8	12,046	79,022	8,835	1.4
Clinton	2,409	10,792	848	2.8	4,048	26,555	2,948	1.4
Columbia	2,273	10,183	963	2.4	5,061	33,200	4,622	1.1
Cortland	1,204	5,394	871	1.4	5,102	33,469	3,890	1.3
Delaware	654	2,930	504	1.3	11,448	75,099	9,649	1.2
Dutchess	949	4,252	753	1.3	3,894	25,545	2,688	1.4
Erie	2,885	12,925	1,157	2.5	4,221	27,690	2,706	1.6
Essex	345	1,546	317	1.1	2,377	15,593	1,870	1.3
Franklin	2,408	10,788	1,201	2.0	6,616	43,401	4,416	1.5
Fulton	109	488	96	1.1	1,383	9,072	915	1.5
Genesee	3,911	17,521	1,333	2.9	509	3,339	212	2.4
Greene	319	1,429	175	1.8	4,269	28,005	4,098	1.0
Herkimer	660	2,957	573	1.2	3,956	25,951	2,853	1.4
Jefferson	5,140	23,027	3,012	1.7	15,305	100,401	11,437	1.3
Lewis	2,706	12,123	1,343	2.0	9,211	60,424	5,592	1.6
Livingston	1,943	8,705	668	2.9	3,067	20,120	1,928	1.6
Madison	2,738	12,266	1,300	2.1	3,203	21,012	2,029	1.6
Monroe	199	892	182	1.1	400	2,624	354	1.1
Montgomery	1,661	7,441	1,175	1.4	4,913	32,229	2,942	1.7
Niagara	936	4,193	673	1.4	2,487	16,315	2,407	1.0
Oneida	1,998	8,951	1,091	1.8	9,229	60,542	5,085	1.8

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

2002

	D Small grain hay	P Small grain hay	Small grain hay	Yield Small grain hay	D Wild hay	P Wild hay	Wild hay	Yield Wild hay
	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
Onondaga	691	3,096	406	1.7	587	3,851	526	1.1
Ontario	3,668	16,433	1,883	1.9	1,783	11,696	1,052	1.7
Orange	3,907	17,503	1,061	3.7	6,913	45,349	4,561	1.5
Orleans	0	0	281	0.0	1,047	6,868	834	1.3
Oswego	2,602	11,657	1,069	2.4	6,627	43,473	5,192	1.3
Otsego	1,297	5,811	884	1.5	9,077	59,545	7,236	1.3
Rensselaer	585	2,621	471	1.2	3,715	24,370	3,137	1.2
St. Lawrence	3,218	14,417	2,142	1.5	19,043	124,922	12,937	1.5
Saratoga	1,174	5,260	799	1.5	1,751	11,487	1,503	1.2
Schenectady	185	829	316	0.6	1,668	10,942	1,218	1.4
Schoharie	306	1,371	316	1.0	6,936	45,500	4,348	1.6
Schuyler	659	2,952	591	1.1	2,289	15,016	1,609	1.4
Seneca	295	1,322	220	1.3	1,306	8,567	607	2.2
Steuben	5,925	26,544	3,673	1.6	14,452	94,805	10,513	1.4
Suffolk	0	0	273	0.0	82	538	165	0.5
Sullivan	435	1,949	451	1.0	7,180	47,101	6,445	1.1
Tioga	594	2,661	371	1.6	7,232	47,442	5,869	1.2
Tompkins	625	2,800	386	1.6	2,722	17,856	2,194	1.2
Ulster	832	3,727	698	1.2	3,746	24,574	3,873	1.0
Washington	634	2,840	693	0.9	4,012	26,319	3,282	1.2
Wayne	461	2,065	544	0.8	987	6,475	656	1.5
Wyoming	1,382	6,191	562	2.5	1,939	12,720	954	2.0
Yates	3,312	14,838	1,522	2.2	2,117	13,888	1,393	1.5

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	Total P Balance	P per acre harvested cropland	Total P Manure	Total P Fertilizer	Total P Crops	Total P Cattle	Total P Hogs	Total P Poultry	Total P Sheep	Total P Horses	Total Animal Units
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	(1000 lbs/AU)
New York State	33,798,339	8.77	44,781,289	35,141,180	46,124,130	42,861,600	318,788	1,470,616	80,418	49,867	1,515,751
Albany	-37,655	-1.44	141,971	57,585	237,211	138,993	694	609	1,234	441	6,802
Allegany	306,633	4.75	826,581	261,641	781,589	816,868	6,124	533	2,438	618	29,637
Broome	65,880	1.80	451,183	24,221	409,524	446,182	323	1,565	2,439	674	16,698
Cattaraugus	508,755	6.44	1,233,772	299,154	1,024,172	1,227,601	2,215	1,470	1,435	1,050	41,899
Cayuga	1,954,321	11.00	1,669,963	2,647,748	2,363,390	1,609,933	6,276	51,411	1,690	653	54,101
Chautauqua	1,108,421	9.47	1,583,701	757,614	1,232,895	1,579,352	1,250	1,256	763	1,080	53,356
Chemung	41,880	1.65	211,657	98,790	268,567	209,440	1,017	318	568	314	8,009
Chenango	488,867	5.86	1,364,794	109,985	985,913	1,360,369	1,322	893	1,483	728	45,503
Clinton	854,004	13.77	1,115,419	608,653	870,068	1,113,998	465	83	395	478	36,109
Columbia	206,824	3.24	731,239	288,534	812,949	725,872	743	12	3,889	722	25,340
Cortland	392,536	7.37	881,587	232,432	721,484	873,935	776	2,166	4,375	337	29,372
Delaware	418,353	6.13	1,017,254	141,807	740,708	1,013,941	492	905	1,239	677	34,891
Dutchess	-66,604	-1.61	280,264	122,078	468,945	270,436	679	4,057	3,384	1,707	13,063
Erie	657,305	8.18	935,639	721,133	999,467	929,890	1,820	936	1,691	1,302	32,263
Essex	34,862	1.95	166,831	40,695	172,664	165,747	140	304	379	262	6,426
Franklin	509,181	8.22	1,062,758	241,484	795,061	1,061,467	373	15	722	180	34,176
Fulton	76,832	4.66	237,073	62,293	222,533	235,591	84	164	948	286	8,298
Genesee	1,941,081	14.46	1,306,902	2,096,786	1,462,607	1,298,201	5,176	14	2,985	526	43,134
Greene	-49,917	-2.90	111,658	7,951	169,526	110,558	133	0	749	217	4,593
Herkimer	468,669	6.91	1,160,077	230,545	921,953	1,157,114	445	1,080	1,043	394	37,742
Jefferson	443,887	2.98	1,790,946	430,401	1,777,461	1,788,550	665	27	1,115	589	59,542
Lewis	1,201,212	14.28	1,666,210	665,474	1,130,472	1,665,004	305	364	363	174	52,354
Livingston	173,956	1.31	1,064,469	825,261	1,715,775	1,059,376	1,017	173	3,153	751	36,298
Madison	593,987	5.94	1,488,443	463,262	1,357,717	1,484,911	1,009	627	1,214	683	48,600
Monroe	123,667	1.52	217,056	712,343	805,733	213,235	38	2,073	732	980	9,042
Montgomery	765,556	8.64	1,053,476	710,942	998,862	1,050,339	488	591	1,533	525	34,417
Niagara	1,000,191	10.45	435,768	1,615,781	1,051,357	432,773	923	346	1,079	646	16,241
Oneida	729,177	6.55	1,642,256	613,338	1,526,417	1,638,703	380	835	1,486	852	53,737

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	Total P Balance	P per acre harvested cropland	Total P Manure	Total P Fertilizer	Total P Crops	Total P Cattle	Total P Hogs	Total P Poultry	Total P Sheep	Total P Horses	Total Animal Equivalent Units
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	(1000 lbs/AU)
Onondaga	838,385	8.82	1,040,524	1,059,693	1,261,832	1,038,039	165	59	1,279	982	34,928
Ontario	2,158,673	15.58	902,646	2,931,824	1,675,797	892,252	7,317	29	2,213	834	31,330
Orange	193,616	3.57	562,840	149,630	518,853	559,405	728	87	920	1,701	20,867
Orleans	825,912	7.70	235,176	1,721,170	1,130,434	230,952	2,873	394	481	476	9,791
Oswego	235,846	5.55	387,225	350,070	501,449	384,296	1,673	488	182	586	14,408
Otsego	233,828	2.72	1,189,429	62,669	1,018,270	1,184,832	380	666	2,483	1,070	40,741
Rensselaer	459,677	9.17	459,524	545,332	545,179	453,413	1,087	2,526	2,040	457	16,673
St. Lawrence	957,415	5.82	2,424,028	722,534	2,189,147	2,415,774	2,196	2,023	3,003	1,032	80,733
Saratoga	101,345	2.65	413,740	134,912	447,307	410,165	1,300	106	1,191	978	15,630
Schenectady	-9,311	-1.12	39,807	8,137	57,255	39,198	31	0	181	397	2,133
Schoharie	309,083	5.74	573,673	307,809	572,400	569,551	451	945	2,222	505	20,330
Schuyler	17,710	0.62	250,041	73,670	306,001	247,942	62	0	1,741	296	9,473
Seneca	-298,506	-3.31	465,957	399,312	1,163,775	453,026	11,455	121	975	380	16,773
Steuben	2,034,214	11.99	1,465,718	2,561,026	1,992,529	1,459,115	4,001	73	1,455	1,073	52,420
Suffolk	728,529	26.17	5,055	892,058	168,584	1,815	578	1,438	455	769	1,329
Sullivan	181,152	7.04	311,101	138,729	268,678	297,534	152	12,364	504	548	11,824
Tioga	607,105	12.90	638,620	473,681	505,195	635,724	786	418	1,297	394	22,373
Tompkins	395,535	7.77	545,468	485,358	635,292	541,177	704	11	2,939	637	19,180
Ulster	-8,083	-0.26	94,117	87,241	189,441	88,270	2,212	1,487	1,233	915	5,538
Washington	888,038	9.15	1,574,065	593,382	1,279,409	1,567,649	3,322	135	2,282	677	52,153
Wayne	842,750	7.27	487,999	1,459,412	1,104,661	480,712	5,919	10	808	549	17,538
Wyoming	2,739,028	23.06	2,666,417	1,937,456	1,864,846	2,661,293	720	292	3,709	403	84,886
Yates	94,266	1.34	573,816	194,174	673,724	569,848	765	1,220	1,583	400	19,741

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	D Milking cows	Milking cows	P Milking cows	D Beef cattle	Beef cattle	P Beef cattle	D Other cattle	Other cattle	P Other cattle	D Breeding hogs	Breeding hogs	P Breeding hogs	D Other hogs
	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number
New York State	699,139	959,918	32,969,997	79,820	79,820	197,850	567,949	369,167	9,693,754	11,435	4,871	81,303	69,426
Albany	1,879	2,580	88,610	1,652	1,652	4,095	2,712	1,763	46,288	86	37	611	24
Allegany	13,002	17,852	613,148	2,794	2,794	6,925	11,530	7,495	196,794	832	354	5,916	61
Broome	7,177	9,854	338,453	1,658	1,658	4,110	6,071	3,946	103,620	31	13	220	30
Cattaraugus	20,154	27,671	950,422	2,043	2,043	5,064	15,943	10,363	272,115	260	111	1,849	107
Cayuga	26,400	36,247	1,244,971	2,278	2,278	5,646	21,052	13,684	359,316	863	368	6,136	41
Chautauqua	25,618	35,174	1,208,094	2,532	2,532	6,276	21,384	13,900	364,982	147	63	1,045	60
Chemung	3,271	4,491	154,254	925	925	2,293	3,099	2,014	52,894	130	55	924	27
Chenango	22,720	31,195	1,071,430	2,222	2,222	5,508	16,606	10,794	283,431	171	73	1,216	31
Clinton	18,380	25,236	866,764	759	759	1,881	14,375	9,344	245,353	52	22	370	28
Columbia	11,859	16,282	559,247	1,394	1,394	3,455	9,560	6,214	163,170	93	40	661	24
Cortland	14,351	19,704	676,764	1,343	1,343	3,329	11,357	7,382	193,841	99	42	704	21
Delaware	16,487	22,637	777,494	2,322	2,322	5,756	13,516	8,785	230,691	50	21	356	40
Dutchess	3,907	5,364	184,246	1,665	1,665	4,127	4,808	3,125	82,063	82	35	583	28
Erie	15,415	21,165	726,941	1,292	1,292	3,202	11,703	7,607	199,747	231	98	1,642	52
Essex	2,542	3,490	119,876	837	837	2,075	2,566	1,668	43,796	12	5	85	16
Franklin	17,754	24,376	837,243	1,006	1,006	2,494	12,991	8,444	221,730	39	17	277	28
Fulton	3,798	5,215	179,106	464	464	1,150	3,242	2,107	55,334	8	3	57	8
Genesee	20,738	28,473	977,963	1,236	1,236	3,064	18,583	12,079	317,175	714	304	5,077	29
Greene	1,535	2,108	72,388	705	705	1,747	2,134	1,387	36,423	13	6	92	12
Herkimer	19,339	26,552	911,989	1,265	1,265	3,136	14,178	9,216	241,990	53	23	377	20
Jefferson	29,465	40,455	1,389,510	3,184	3,184	7,892	22,917	14,896	391,147	69	29	491	51
Lewis	28,143	38,640	1,327,168	596	596	1,477	19,707	12,810	336,359	27	12	192	33
Livingston	17,206	23,624	811,401	1,967	1,967	4,876	14,243	9,258	243,100	130	55	924	27
Madison	24,634	33,822	1,161,690	1,420	1,420	3,520	18,731	12,175	319,701	126	54	896	33
Monroe	2,959	4,063	139,541	645	645	1,599	4,224	2,746	72,095	0	0	0	11
Montgomery	17,401	23,892	820,596	912	912	2,261	13,328	8,663	227,482	58	25	412	22
Niagara	6,581	9,036	310,347	1,576	1,576	3,906	6,944	4,514	118,520	113	48	803	35
Oneida	27,233	37,391	1,284,254	1,576	1,576	3,906	20,538	13,350	350,543	38	16	270	32

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	D Milking cows	Milking cows	P Milking cows	D Beef cattle	Beef cattle	P Beef cattle	D Other cattle	Other cattle	P Other cattle	D Breeding hogs	Breeding hogs	P Breeding hogs	D Other hogs
	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number
Onondaga	17,148	23,544	808,665	1,183	1,183	2,932	13,267	8,624	226,441	17	7	121	13
Ontario	14,085	19,339	664,220	1,592	1,592	3,946	13,129	8,534	224,086	1,021	435	7,259	17
Orange	9,492	13,033	447,624	1,027	1,027	2,546	6,400	4,160	109,235	98	42	697	9
Orleans	3,263	4,480	153,877	1,603	1,603	3,973	4,283	2,784	73,102	394	168	2,801	21
Oswego	5,934	8,147	279,836	1,427	1,427	3,537	5,913	3,843	100,923	216	92	1,536	40
Otsego	19,412	26,653	915,431	2,210	2,210	5,478	15,463	10,051	263,922	38	16	270	32
Rensselaer	7,084	9,726	334,067	1,614	1,614	4,001	6,758	4,393	115,346	139	59	988	29
St. Lawrence	39,532	54,277	1,864,250	3,886	3,886	9,632	31,749	20,637	541,892	255	109	1,813	112
Saratoga	6,434	8,834	303,415	1,215	1,215	3,012	6,078	3,951	103,739	165	70	1,173	37
Schenectady	578	794	27,257	307	307	761	655	426	11,180	0	0	0	9
Schoharie	8,989	12,342	423,903	1,621	1,621	4,018	8,298	5,394	141,630	48	20	341	32
Schuyler	3,796	5,212	179,012	1,154	1,154	2,860	3,871	2,516	66,070	0	0	0	18
Seneca	7,337	10,074	345,998	1,423	1,423	3,527	6,064	3,942	103,500	1,602	682	11,390	19
Steuben	22,971	31,539	1,083,266	5,093	5,093	12,624	21,281	13,833	363,224	532	227	3,783	64
Suffolk	31	43	1,462	53	53	131	13	8	222	75	32	533	13
Sullivan	4,558	6,258	214,946	914	914	2,266	4,706	3,059	80,322	17	7	121	9
Tioga	10,383	14,256	489,642	1,996	1,996	4,947	8,269	5,375	141,135	98	42	697	26
Tompkins	8,716	11,967	411,029	1,124	1,124	2,786	7,462	4,850	127,361	87	37	619	25
Ulster	1,160	1,593	54,703	1,168	1,168	2,895	1,797	1,168	30,671	300	128	2,133	23
Washington	25,563	35,098	1,205,500	2,059	2,059	5,104	20,919	13,597	357,045	448	191	3,185	40
Wayne	7,780	10,682	366,889	1,417	1,417	3,512	6,463	4,201	110,310	821	350	5,837	24
Wyoming	45,260	62,142	2,134,371	1,893	1,893	4,692	30,597	19,888	522,230	84	36	597	36
Yates	9,673	13,281	456,159	1,487	1,487	3,686	6,445	4,189	110,003	99	42	704	18

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	Other hogs	P Other hogs	D Breeding turkeys	Breeding turkeys	P Breeding turkeys	D Slaughter turkeys	Slaughter turkeys	P Slaughter turkeys	D Layers	Layers	P Layers	D Broilers	Broilers
	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU
New York State	8,678	237,486	5,462	55	2,946	4,095	82	1,430	3,802,401	11,407	1,450,331	406,490	813
Albany	3	82	117	1	63	56	1	20	1,180	4	450	312	1
Allegany	8	209	126	1	68	107	2	37	1,077	3	411	491	1
Broome	4	103	0	0	0	0	0	0	4,082	12	1,557	235	0
Cattaraugus	13	366	171	2	92	0	0	0	3,108	9	1,185	1,405	3
Cayuga	5	140	37	0	20	0	0	0	134,734	404	51,391	0	0
Chautauqua	8	205	166	2	90	0	0	0	2,634	8	1,005	802	2
Chemung	3	92	106	1	57	0	0	0	557	2	212	502	1
Chenango	4	106	20	0	11	0	0	0	2,211	7	843	368	1
Clinton	4	96	58	1	31	0	0	0	0	0	0	54	0
Columbia	3	82	0	0	0	0	0	0	0	0	0	353	1
Cortland	3	72	272	3	147	0	0	0	4,990	15	1,903	1,721	3
Delaware	5	137	67	1	36	0	0	0	1,997	6	762	1,395	3
Dutchess	4	96	0	0	0	0	0	0	9,705	29	3,702	7,705	15
Erie	7	178	1,736	17	936	0	0	0	0	0	0	0	0
Essex	2	55	32	0	17	0	0	0	751	2	286	0	0
Franklin	4	96	28	0	15	0	0	0	0	0	0	0	0
Fulton	1	27	0	0	0	0	0	0	383	1	146	74	0
Genesee	4	99	0	0	0	0	0	0	0	0	0	40	0
Greene	2	41	0	0	0	0	0	0	0	0	0	0	0
Herkimer	3	68	8	0	4	0	0	0	2,783	8	1,062	0	0
Jefferson	6	174	0	0	0	0	0	0	0	0	0	224	0
Lewis	4	113	4	0	2	0	0	0	785	2	299	0	0
Livingston	3	92	137	1	74	101	2	35	0	0	0	188	0
Madison	4	113	30	0	16	40	1	14	1,430	4	545	110	0
Monroe	1	38	0	0	0	3,100	62	1,083	2,392	7	912	0	0
Montgomery	3	75	91	1	49	0	0	0	979	3	373	3,890	8
Niagara	4	120	345	3	186	333	7	116	0	0	0	858	2
Oneida	4	109	70	1	38	0	0	0	1,747	5	666	530	1

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	Other hogs	P Other hogs	D Breeding turkeys	Breeding turkeys	P Breeding turkeys	D Slaughter turkeys	Slaughter turkeys	P Slaughter turkeys	D Layers	Layers	P Layers	D Broilers	Broilers
	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU
Onondaga	2	44	0	0	0	0	0	0	0	0	0	183	0
Ontario	2	58	45	0	24	0	0	0	0	0	0	135	0
Orange	1	31	0	0	0	0	0	0	0	0	0	80	0
Orleans	3	72	137	1	74	0	0	0	749	2	286	1,025	2
Oswego	5	137	123	1	66	113	2	39	978	3	373	265	1
Otsego	4	109	27	0	15	18	0	6	1,648	5	629	474	1
Rensselaer	4	99	143	1	77	138	3	48	6,085	18	2,321	277	1
St. Lawrence	14	383	168	2	91	44	1	15	4,314	13	1,645	1,133	2
Saratoga	5	127	177	2	95	0	0	0	0	0	0	301	1
Schenectady	1	31	0	0	0	0	0	0	0	0	0	0	0
Schoharie	4	109	46	0	25	0	0	0	1,803	5	688	291	1
Schuyler	2	62	0	0	0	0	0	0	0	0	0	0	0
Seneca	2	65	215	2	116	0	0	0	0	0	0	0	160
Steuben	8	219	99	1	53	0	0	0	0	0	0	588	1
Suffolk	2	44	0	0	0	0	0	0	3,719	11	1,419	0	0
Sullivan	1	31	10	0	5	0	0	0	0	0	0	364,026	728
Tioga	3	89	73	1	39	0	0	0	916	3	349	324	1
Tompkins	3	86	0	0	0	0	0	0	0	0	0	73	0
Ulster	3	79	19	0	10	36	1	13	3,431	10	1,309	1,527	3
Washington	5	137	91	1	49	0	0	0	0	0	0	0	0
Wayne	3	82	0	0	0	0	0	0	0	0	0	290	1
Wyoming	5	123	468	5	252	0	0	0	0	0	0	451	1
Yates	2	62	0	0	0	0	0	0	3,090	9	1,179	381	1

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	P Broilers	D Hens and pullets	Hens and pullets	P Hens and pullets	D Chickens and pullets	Chickens and pullets	P Chickens and pullets	D Sheep	Sheep	P Sheep	D Horse	Horse	P Horse
	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs
New York State	13,800	6,344	19	2,109	0	0	0	69,248	6,925	80,418	67,269	73,996	49,867
Albany	11	197	1	66	0	0	0	1,063	106	1,234	595	655	441
Allegany	17	0	0	0	0	0	0	2,099	210	2,438	834	917	618
Broome	8	0	0	0	0	0	0	2,100	210	2,439	909	1,000	674
Cattaraugus	48	435	1	145	0	0	0	1,236	124	1,435	1,417	1,559	1,050
Cayuga	0	0	0	0	0	0	0	1,455	146	1,690	881	969	653
Chautauqua	27	404	1	134	0	0	0	657	66	763	1,457	1,603	1,080
Chemung	17	93	0	31	0	0	0	489	49	568	424	466	314
Chenango	12	79	0	26	0	0	0	1,277	128	1,483	982	1,080	728
Clinton	2	149	0	50	0	0	0	340	34	395	645	710	478
Columbia	12	0	0	0	0	0	0	3,349	335	3,889	974	1,071	722
Cortland	58	173	1	58	0	0	0	3,767	377	4,375	454	499	337
Delaware	47	181	1	60	0	0	0	1,067	107	1,239	913	1,004	677
Dutchess	262	283	1	94	0	0	0	2,914	291	3,384	2,303	2,533	1,707
Erie	0	0	0	0	0	0	0	1,456	146	1,691	1,756	1,932	1,302
Essex	0	0	0	0	0	0	0	326	33	379	353	388	262
Franklin	0	0	0	0	0	0	0	622	62	722	243	267	180
Fulton	3	46	0	15	0	0	0	816	82	948	386	425	286
Genesee	1	39	0	13	0	0	0	2,570	257	2,985	710	781	526
Greene	0	0	0	0	0	0	0	645	65	749	293	322	217
Herkimer	0	43	0	14	0	0	0	898	90	1,043	532	585	394
Jefferson	8	58	0	19	0	0	0	960	96	1,115	795	875	589
Lewis	0	187	1	62	0	0	0	313	31	363	235	259	174
Livingston	6	173	1	58	0	0	0	2,715	272	3,153	1,013	1,114	751
Madison	4	142	0	47	0	0	0	1,045	105	1,214	922	1,014	683
Monroe	0	234	1	78	0	0	0	630	63	732	1,322	1,454	980
Montgomery	132	111	0	37	0	0	0	1,320	132	1,533	708	779	525
Niagara	29	45	0	15	0	0	0	929	93	1,079	871	958	646
Oneida	18	341	1	113	0	0	0	1,280	128	1,486	1,149	1,264	852

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	P Broilers	D Hens and pullets	Hens and pullets	P Hens and pullets	D Chickens and pullets	Chickens and pullets	P Chickens and pullets	D Sheep	Sheep	P Sheep	D Horse	Horse	P Horse
	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs
Onondaga	6	159	0	53	0	0	0	1,101	110	1,279	1,325	1,458	982
Ontario	5	0	0	0	0	0	0	1,906	191	2,213	1,125	1,238	834
Orange	3	252	1	84	0	0	0	792	79	920	2,295	2,525	1,701
Orleans	35	0	0	0	0	0	0	414	41	481	642	706	476
Oswego	9	0	0	0	0	0	0	157	16	182	791	870	586
Otsego	16	0	0	0	0	0	0	2,138	214	2,483	1,443	1,587	1,070
Rensselaer	9	212	1	70	0	0	0	1,757	176	2,040	616	678	457
St. Lawrence	38	700	2	233	0	0	0	2,586	259	3,003	1,392	1,531	1,032
Saratoga	10	0	0	0	0	0	0	1,026	103	1,191	1,319	1,451	978
Schenectady	0	0	0	0	0	0	0	156	16	181	536	590	397
Schoharie	10	668	2	222	0	0	0	1,913	191	2,222	681	749	505
Schuyler	0	0	0	0	0	0	0	1,499	150	1,741	399	439	296
Seneca	5	0	0	0	0	0	0	840	84	975	512	563	380
Steuben	20	0	0	0	0	0	0	1,253	125	1,455	1,448	1,593	1,073
Suffolk	0	58	0	19	0	0	0	392	39	455	1,037	1,141	769
Sullivan	12,359	0	0	0	0	0	0	434	43	504	739	813	548
Tioga	11	55	0	18	0	0	0	1,117	112	1,297	532	585	394
Tompkins	2	27	0	9	0	0	0	2,531	253	2,939	859	945	637
Ulster	52	313	1	104	0	0	0	1,062	106	1,233	1,234	1,357	915
Washington	0	258	1	86	0	0	0	1,965	197	2,282	913	1,004	677
Wayne	10	0	0	0	0	0	0	696	70	808	741	815	549
Wyoming	15	74	0	25	0	0	0	3,194	319	3,709	543	597	403
Yates	13	85	0	28	0	0	0	1,363	136	1,583	539	593	400

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	D Fertilizer	P Fertilizer	Fertilized cropland	Manured cropland	Harvested cropland	D Corn grain	P Corn grain	Corn grain	Yield Corn grain	D Corn silage	P Corn silage	Corn silage	Yield Corn silage
	tons P ₂ O ₅	lbs P	acres	acres	acres	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre
New York State	40,207	35,141,180	2,345,555		3,855,732	62,217,768	9,332,665	578,494	107.6	8,234,684	13,389,596	551,293	14.9
Albany	66	57,585	7,859	0	26,099	122,994	18,449	1,081	113.8	37,416	60,838	2,839	13.2
Allegany	299	261,641	21,595	0	64,522	287,085	43,063	2,739	104.8	161,479	262,565	10,685	15.1
Broome	28	24,221	12,211	0	36,630	128,193	19,229	1,291	99.3	81,227	132,075	5,734	14.2
Cattaraugus	342	299,154	37,089	0	79,042	534,349	80,152	4,657	114.7	246,089	400,141	15,667	15.7
Cayuga	3,029	2,647,748	149,855	0	177,634	6,433,149	964,972	56,993	112.9	330,771	537,834	19,240	17.2
Chautauqua	867	757,614	73,295	0	117,018	782,410	117,362	7,383	106.0	244,503	397,562	16,780	14.6
Chemung	113	98,790	11,561	0	25,382	426,943	64,041	3,751	113.8	38,660	62,861	2,786	13.9
Chenango	126	109,985	41,088	0	83,448	457,971	68,696	4,632	98.9	204,776	332,966	14,942	13.7
Clinton	696	608,653	42,160	0	62,007	788,586	118,288	6,278	125.6	232,390	377,866	13,894	16.7
Columbia	330	288,534	36,372	0	63,844	1,288,872	193,331	11,427	112.8	153,272	249,220	10,718	14.3
Cortland	266	232,432	26,389	0	53,234	605,362	90,804	5,736	105.5	167,815	272,867	10,943	15.3
Delaware	162	141,807	18,775	0	68,301	72,850	10,928	718	101.5	115,105	187,161	8,308	13.9
Dutchess	140	122,078	18,444	0	41,246	565,282	84,792	5,218	108.3	67,576	109,879	4,346	15.5
Erie	825	721,133	50,368	0	80,324	1,118,979	167,847	10,917	102.5	197,361	320,909	12,570	15.7
Essex	47	40,695	5,117	0	17,920	210	32	4	52.5	35,442	57,629	2,440	14.5
Franklin	276	241,484	35,080	0	61,953	139,780	20,967	1,326	105.4	175,885	285,989	11,175	15.7
Fulton	71	62,293	7,855	0	16,475	126,704	19,006	1,201	105.5	60,707	98,710	3,215	18.9
Genesee	2,399	2,096,786	113,945	0	134,273	2,889,770	433,466	27,231	106.1	275,228	447,521	16,816	16.4
Greene	9	7,951	7,917	0	17,242	74,235	11,135	638	116.4	10,924	17,762	1,018	10.7
Herkimer	264	230,545	24,206	0	67,840	582,193	87,329	5,362	108.6	190,305	309,436	13,450	14.1
Jefferson	492	430,401	45,932	0	149,183	983,296	147,494	10,230	96.1	331,366	538,801	22,323	14.8
Lewis	761	665,474	46,342	0	84,100	449,250	67,388	4,294	104.6	251,299	408,612	16,943	14.8
Livingston	944	825,261	109,618	0	133,216	3,838,938	575,841	34,549	111.1	258,523	420,358	15,282	16.9
Madison	530	463,262	48,719	0	100,073	1,704,553	255,683	16,344	104.3	293,646	477,468	20,372	14.4
Monroe	815	712,343	78,968	0	81,334	2,270,703	340,605	21,614	105.1	40,441	65,757	2,655	15.2
Montgomery	813	710,942	35,942	0	88,651	1,099,908	164,986	11,015	99.9	210,844	342,832	16,619	12.7
Niagara	1,849	1,615,781	93,570	0	95,711	2,978,862	446,829	28,739	103.7	96,447	156,823	6,414	15.0
Oneida	702	613,338	58,054	0	111,290	2,235,680	335,352	20,068	111.4	267,056	434,233	18,256	14.6

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	D Fertilizer	P Fertilizer	Fertilized cropland	Manured cropland	Harvested cropland	D Corn grain	P Corn grain	Corn grain	Yield Corn grain	D Corn silage	P Corn silage	Corn silage	Yield Corn silage
	tons P ₂ O ₅	lbs P	acres	acres	acres	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre
Onondaga	1,212	1,059,693	67,977	0	95,060	2,969,209	445,381	28,930	102.6	192,833	313,546	12,306	15.7
Ontario	3,354	2,931,824	114,742	0	138,541	4,324,098	648,615	39,289	110.1	186,583	303,384	11,412	16.3
Orange	171	149,630	37,071	0	54,282	463,360	69,504	4,671	99.2	107,534	174,850	7,902	13.6
Orleans	1,969	1,721,170	89,640	0	107,199	3,606,152	540,923	31,335	115.1	56,085	91,194	3,737	15.0
Oswego	401	350,070	17,119	0	42,525	459,362	68,904	4,754	96.6	74,353	120,898	5,340	13.9
Otsego	72	62,669	35,180	0	85,821	549,131	82,370	5,635	97.5	202,115	328,639	14,511	13.9
Rensselaer	624	545,332	28,457	0	50,131	1,190,275	178,541	11,455	103.9	92,248	149,995	8,177	11.3
St. Lawrence	827	722,534	71,355	0	164,376	612,632	91,895	5,894	103.9	476,816	775,303	32,606	14.6
Saratoga	154	134,912	25,607	0	38,304	530,852	79,628	5,105	104.0	112,118	182,304	7,408	15.1
Schenectady	9	8,137	2,437	0	8,284	10,691	1,604	141	75.8	3,258	5,298	421	7.7
Schoharie	352	307,809	21,937	0	53,879	450,868	67,630	4,213	107.0	94,188	153,150	7,373	12.8
Schuyler	84	73,670	12,253	0	28,599	250,575	37,586	2,537	98.8	52,892	86,002	3,507	15.1
Seneca	457	399,312	62,843	0	90,090	2,940,061	441,009	26,722	110.0	81,474	132,477	5,347	15.2
Steuben	2,930	2,561,026	75,202	0	169,589	2,020,358	303,054	19,047	106.1	277,620	451,410	19,244	14.4
Suffolk	1,021	892,058	27,536	0	27,836	285,908	42,886	2,115	135.2	2,034	3,307	112	18.2
Sullivan	159	138,729	9,436	0	25,730	69,580	10,437	693	100.4	27,579	44,843	2,523	10.9
Tioga	542	473,681	21,206	0	47,054	403,835	60,575	3,882	104.0	104,582	170,050	7,964	13.1
Tompkins	555	485,358	45,243	0	50,935	1,297,543	194,631	12,944	100.2	92,514	150,428	6,216	14.9
Ulster	100	87,241	18,345	0	31,634	215,042	32,256	1,732	124.2	24,275	39,471	1,634	14.9
Washington	679	593,382	62,716	0	97,090	859,120	128,868	8,386	102.4	374,004	608,131	26,443	14.1
Wayne	1,670	1,459,412	104,525	0	115,855	3,301,580	495,237	31,786	103.9	87,706	142,610	5,658	15.5
Wyoming	2,217	1,937,456	79,645	0	118,803	1,057,785	158,668	9,351	113.1	640,781	1,041,910	38,731	16.5
Yates	222	194,174	53,697	0	70,275	1,362,644	204,397	12,441	109.5	90,859	147,737	6,021	15.1

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	D Sorghum grain	P Sorghum grain	Sorghum grain	Yield Sorghum grain	D Sorghum forage	P Sorghum forage	Sorghum forage	Yield Sorghum forage	D Barley	P Barley	Barley	Yield Barley	D Buckwheat
	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre	bushels	lbs	acres	bu/acre	bushels
New York State	0	0	0	0	24,111	58,831	2,956	8.2	688,845	123,992	12,664	54.4	35,938
Albany	0	0	0	0	0	0	0	0	0	0	0	0	0
Allegany	0	0	0	0	100	244	0	0	23,945	4,310	477	50.2	565
Broome	0	0	0	0	478	1,166	52	9.2	0	0	0	0	0
Cattaraugus	0	0	0	0	139	339	28	5.0	3,561	641	78	45.7	0
Cayuga	0	0	0	0	280	683	29	9.7	74,547	13,418	1,470	50.7	4,880
Chautauqua	0	0	0	0	739	1,803	108	6.8	6,683	1,203	158	42.3	0
Chemung	0	0	0	0	0	0	0	0	0	0	0	0	0
Chenango	0	0	0	0	715	1,745	152	4.7	2,940	529	40	73.5	0
Clinton	0	0	0	0	0	0	0	0	0	0	0	0	0
Columbia	0	0	0	0	1,705	4,160	180	9.5	3,925	707	85	46.2	0
Cortland	0	0	0	0	0	0	0	0	11,589	2,086	257	45.1	0
Delaware	0	0	0	0	0	0	41	0.0	2,325	419	41	56.7	0
Dutchess	0	0	0	0	0	0	0	0	1,465	264	62	23.6	0
Erie	0	0	0	0	819	1,998	86	9.5	17,017	3,063	286	59.5	5,357
Essex	0	0	0	0	0	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	0	0	0	0	4,857	874	89	54.6	0
Fulton	0	0	0	0	0	0	0	0	0	0	0	0	0
Genesee	0	0	0	0	2,238	5,461	283	7.9	36,321	6,538	817	44.5	1,865
Greene	0	0	0	0	0	0	0	0	0	0	0	0	0
Herkimer	0	0	0	0	0	0	0	0	24,280	4,370	296	82.0	0
Jefferson	0	0	0	0	4,442	10,838	467	9.5	21,569	3,882	436	49.5	0
Lewis	0	0	0	0	950	2,318	174	5.5	21,555	3,880	335	64.3	0
Livingston	0	0	0	0	0	0	20	0.0	21,067	3,792	372	56.6	1,191
Madison	0	0	0	0	422	1,030	73	5.8	14,355	2,584	285	50.4	0
Monroe	0	0	0	0	0	0	0	0	8,360	1,505	212	39.4	0
Montgomery	0	0	0	0	0	0	69	0.0	6,499	1,170	226	28.8	0
Niagara	0	0	0	0	0	0	0	0	20,500	3,690	332	61.7	1,025
Oneida	0	0	0	0	0	0	104	0.0	23,595	4,247	297	79.4	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	D Sorghum grain	P Sorghum grain	Sorghum grain	Yield Sorghum grain	D Sorghum forage	P Sorghum forage	Sorghum forage	Yield Sorghum forage	D Barley	P Barley	Barley	Yield Barley	D Buckwheat
	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre	bushels	lbs	acres	bu/acre	bushels
Onondaga	0	0	0	0	310	756	39	7.9	51,911	9,344	973	53.4	0
Ontario	0	0	0	0	234	571	35	6.7	46,777	8,420	797	58.7	0
Orange	0	0	0	0	0	0	0	0	0	0	0	0	0
Orleans	0	0	0	0	0	0	0	0	6,600	1,188	77	85.7	0
Oswego	0	0	0	0	1,726	4,211	135	12.8	2,350	423	50	47.0	0
Otsego	0	0	0	0	418	1,020	56	7.5	26,639	4,795	508	52.4	0
Rensselaer	0	0	0	0	0	0	0	0	0	0	0	0	0
St. Lawrence	0	0	0	0	5,072	12,376	391	13.0	4,896	881	107	45.8	0
Saratoga	0	0	0	0	0	0	0	0	0	0	0	0	0
Schenectady	0	0	0	0	0	0	0	0	0	0	0	0	0
Schoharie	0	0	0	0	323	788	37	8.7	0	0	0	0	0
Schuyler	0	0	0	0	0	0	0	0	15,630	2,813	306	51.1	2,320
Seneca	0	0	0	0	0	0	0	0	39,313	7,076	695	56.6	5,903
Steuben	0	0	0	0	811	1,979	146	5.6	48,144	8,666	840	57.3	2,303
Suffolk	0	0	0	0	0	0	0	0	0	0	0	0	0
Sullivan	0	0	0	0	0	0	0	0	0	0	0	0	0
Tioga	0	0	0	0	0	0	0	0	6,525	1,175	115	56.7	0
Tompkins	0	0	0	0	0	0	0	0	32,296	5,813	536	60.3	9,028
Ulster	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington	0	0	0	0	505	1,232	50	10.1	0	0	0	0	0
Wayne	0	0	0	0	325	793	25	13.0	11,611	2,090	186	62.4	0
Wyoming	0	0	0	0	0	0	0	0	30,276	5,450	529	57.2	601
Yates	0	0	0	0	1,360	3,318	176	7.7	14,922	2,686	294	50.8	900

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	P Buckwheat	Buckwheat	Yield Buckwheat	D Oats	P Oats	Oats	Yield Oats	D Rye	P Rye	Rye	Yield Rye	D Wheat	P Wheat
	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs
New York State	5,750	2,171	16.6	4,837,952	532,175	77,140	62.7	165,286	29,751	4,925	33.6	6,325,128	1,265,026
Albany	0	0	0	6,235	686	194	32.1	0	0	0	0	5,340	1,068
Allegany	90	0	0	107,281	11,801	2,274	47.2	0	0	0	0	4,307	861
Broome	0	0	0	9,392	1,033	273	34.4	490	88	24	20.4	0	0
Cattaraugus	0	0	0	142,974	15,727	2,260	63.3	0	0	0	0	15,982	3,196
Cayuga	781	277	17.6	216,428	23,807	3,454	62.7	29,204	5,257	703	41.5	490,630	98,126
Chautauqua	0	0	0	33,990	3,739	757	44.9	0	0	59	0.0	10,880	2,176
Chemung	0	0	0	37,787	4,157	675	56.0	0	0	0	0	4,785	957
Chenango	0	0	0	74,214	8,164	1,292	57.4	959	173	24	40.0	0	0
Clinton	0	0	0	8,331	916	241	34.6	0	0	0	0	0	0
Columbia	0	0	0	22,647	2,491	616	36.8	1,887	340	99	19.1	20,008	4,002
Cortland	0	0	0	44,163	4,858	687	64.3	0	0	0	0	12,580	2,516
Delaware	0	0	0	3,236	356	57	56.8	0	0	0	0	0	0
Dutchess	0	0	0	25,268	2,779	567	44.6	1,845	332	44	41.9	4,676	935
Erie	857	187	28.6	143,038	15,734	2,414	59.3	8,887	1,600	252	35.3	60,995	12,199
Essex	0	0	0	0	0	0	0	0	0	0	0	7,590	1,518
Franklin	0	0	0	27,076	2,978	439	61.7	3,547	638	129	27.5	0	0
Fulton	0	0	0	9,725	1,070	185	52.6	0	0	0	0	0	0
Genesee	298	115	16.2	137,592	15,135	2,022	68.0	3,200	576	97	33.0	733,723	146,745
Greene	0	0	0	4,691	516	154	30.5	0	0	0	0	0	0
Herkimer	0	0	0	103,535	11,389	1,657	62.5	0	0	0	0	1,116	223
Jefferson	0	0	0	71,334	7,847	1,329	53.7	4,145	746	111	37.3	43,667	8,733
Lewis	0	0	0	53,224	5,855	1,021	52.1	0	0	0	0	2,423	485
Livingston	191	60	19.9	244,924	26,942	3,421	71.6	1,950	351	49	39.8	769,536	153,907
Madison	0	0	0	209,764	23,074	3,532	59.4	3,975	716	100	39.8	30,672	6,134
Monroe	0	0	0	119,497	13,145	1,649	72.5	2,325	419	76	30.6	686,366	137,273
Montgomery	0	0	0	74,762	8,224	1,592	47.0	0	0	0	0	9,128	1,826
Niagara	164	91	11.3	260,195	28,621	3,463	75.1	1,300	234	42	31.0	313,522	62,704
Oneida	0	0	0	204,042	22,445	3,154	64.7	0	0	0	0	48,146	9,629

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	P Buckwheat	Buckwheat	Yield Buckwheat	D Oats	P Oats	Oats	Yield Oats	D Rye	P Rye	Rye	Yield Rye	D Wheat	P Wheat
	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs
Onondaga	0	150	0	298,881	32,877	4,477	66.8	18,360	3,305	504	36.4	255,127	51,025
Ontario	0	0	0	235,372	25,891	3,716	63.3	5,860	1,055	181	32.4	733,216	146,643
Orange	0	0	0	4,428	487	76	58.3	2,990	538	89	33.6	0	0
Orleans	0	0	0	106,136	11,675	1,427	74.4	0	0	0	0	677,492	135,498
Oswego	0	0	0	45,175	4,969	732	61.7	0	0	0	0	8,988	1,798
Otsego	0	0	0	59,951	6,595	1,052	57.0	0	0	0	0	0	0
Rensselaer	0	0	0	16,473	1,812	317	52.0	5,024	904	170	29.6	18,140	3,628
St. Lawrence	0	0	0	30,121	3,313	687	43.8	0	0	0	0	0	0
Saratoga	0	0	0	24,065	2,647	420	57.3	3,547	638	104	34.1	2,470	494
Schenectady	0	0	0	0	0	0	0	0	0	0	0	0	0
Schoharie	0	0	0	8,460	931	244	34.7	0	0	0	0	0	0
Schuyler	371	145	16.0	42,794	4,707	778	55.0	1,215	219	58	20.9	25,677	5,135
Seneca	944	342	17.3	250,985	27,608	3,398	73.9	3,740	673	107	35.0	455,146	91,029
Steuben	368	138	16.7	719,616	79,158	10,864	66.2	2,650	477	86	30.8	114,539	22,908
Suffolk	0	0	0	14,311	1,574	182	78.6	26,950	4,851	891	30.2	16,237	3,247
Sullivan	0	0	0	0	0	0	0	0	0	0	0	0	0
Tioga	0	0	0	46,444	5,109	897	51.8	1,085	195	44	24.7	0	0
Tompkins	1,444	501	18.0	151,100	16,621	2,408	62.7	5,630	1,013	163	34.5	83,496	16,699
Ulster	0	0	0	0	0	0	0	0	0	0	0	4,012	802
Washington	0	0	0	19,210	2,113	399	48.1	9,738	1,753	325	30.0	8,432	1,686
Wayne	0	0	0	100,109	11,012	1,531	65.4	3,633	654	81	44.9	225,211	45,042
Wyoming	96	60	10.0	173,237	19,056	2,630	65.9	3,845	692	115	33.4	190,474	38,095
Yates	144	105	8.6	95,739	10,531	1,526	62.7	7,305	1,315	198	36.9	230,399	46,080

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	Wheat	Yield Wheat	D Soy	P Soy	Soy	Yield Soy	D Potatoes	P Potatoes	Potatoes	Yield Potatoes	D Dry beans	P Dry beans	Dry beans
	acres	bu/acre	bushels	lbs	acres	bu/acre	cwt	lbs	acres	cwt/acre	cwt	lbs	acres
New York State	120,179	52.6	3,619,002	1,302,841	98,113	36.9	6,157,277	369,437	22,551	273.0	643,063	315,101	42,749
Albany	0	0	0	0	0	0	0	0	0	0	0	0	0
Allegany	129	33.4	1,474	531	67	22.0	0	0	0	0	0	0	0
Broome	0	0	0	0	0	0	1,260	76	12	105.0	0	0	0
Cattaraugus	0	0	0	0	0	0	0	0	107	0.0	0	0	0
Cayuga	9,004	54.5	483,953	174,223	13,361	36.2	15,618	937	142	110.0	35,889	17,586	2,751
Chautauqua	291	37.4	6,470	2,329	309	20.9	0	0	0	0	0	0	0
Chemung	112	42.7	3,600	1,296	96	37.5	602	36	3	200.7	0	0	0
Chenango	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinton	0	0	0	0	0	0	0	0	68	0.0	0	0	0
Columbia	483	41.4	47,745	17,188	1,155	41.3	0	0	0	0	0	0	0
Cortland	245	51.3	5,212	1,876	142	36.7	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	1,290	77	18	71.7	0	0	0
Dutchess	109	42.9	0	0	0	0	9,628	578	49	196.5	0	0	0
Erie	1,241	49.1	36,905	13,286	1,165	31.7	169,565	10,174	781	217.1	5,832	2,858	387
Essex	225	33.7	6,500	2,340	220	29.5	0	0	0	0	0	0	0
Franklin	0	0	2,912	1,048	203	14.3	202,310	12,139	736	274.9	0	0	0
Fulton	0	0	0	0	0	0	0	0	9	0.0	0	0	0
Genesee	13,738	53.4	105,824	38,097	2,889	36.6	134,261	8,056	487	275.7	64,463	31,587	4,913
Greene	0	0	0	0	0	0	0	0	0	0	0	0	0
Herkimer	41	27.2	9,114	3,281	167	54.6	0	0	0	0	0	0	0
Jefferson	1,140	38.3	44,185	15,907	1,507	29.3	0	0	0	0	0	0	0
Lewis	47	51.6	0	0	0	0	170	10	1	170.0	0	0	0
Livingston	13,748	56.0	107,803	38,809	3,143	34.3	316,120	18,967	1,218	259.5	213,855	104,789	13,101
Madison	660	46.5	24,853	8,947	1,039	23.9	0	0	0	0	1,270	622	139
Monroe	13,464	51.0	137,592	49,533	3,597	38.3	66,877	4,013	275	243.2	126,537	62,003	8,581
Montgomery	258	35.4	45,033	16,212	1,359	33.1	7,280	437	30	242.7	0	0	0
Niagara	6,341	49.4	186,636	67,189	5,133	36.4	11,725	704	53	221.2	6,070	2,974	358
Oneida	945	50.9	10,138	3,650	338	30.0	75,870	4,552	285	266.2	0	0	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	Wheat	Yield Wheat	D Soy	P Soy	Soy	Yield Soy	D Potatoes	P Potatoes	Potatoes	Yield Potatoes	D Dry beans	P Dry beans	Dry beans
	acres	bu/acre	bushels	lbs	acres	bu/acre	cwt	lbs	acres	cwt/acre	cwt	lbs	acres
Onondaga	4,851	52.6	83,563	30,083	2,721	30.7	8,584	515	37	232.0	9,645	4,726	862
Ontario	13,202	55.5	438,709	157,935	11,297	38.8	0	0	0	0	68,532	33,581	4,385
Orange	0	0	0	0	0	0	37,568	2,254	167	225.0	0	0	0
Orleans	13,352	50.7	542,934	195,456	14,232	38.1	166,537	9,992	644	258.6	12,987	6,364	1,034
Oswego	207	43.4	11,903	4,285	337	35.3	104,328	6,260	463	225.3	0	0	0
Otsego	0	0	5,086	1,831	213	23.9	424	25	3	141.3	0	0	0
Rensselaer	481	37.7	3,760	1,354	190	19.8	0	0	9	0.0	0	0	0
St. Lawrence	0	0	21,233	7,644	648	32.8	1,536	92	14	109.7	0	0	0
Saratoga	58	42.6	0	0	0	0	665	40	8	83.1	0	0	0
Schenectady	0	0	0	0	0	0	0	0	0	0	0	0	0
Schoharie	0	0	0	0	201	0.0	12,112	727	47	257.7	0	0	0
Schuyler	494	52.0	2,730	983	111	24.6	342	21	2	171.0	5,590	2,739	288
Seneca	7,907	57.6	728,654	262,315	18,862	38.6	0	0	0	0	9,917	4,859	676
Steuben	2,419	47.3	14,650	5,274	502	29.2	1,252,723	75,163	5,091	246.1	13,318	6,526	764
Suffolk	310	52.4	0	0	0	0	1,767,368	106,042	5,906	299.2	0	0	0
Sullivan	0	0	0	0	0	0	1,262	76	17	74.2	0	0	0
Tioga	0	0	0	0	0	0	1,374	82	8	171.8	0	0	0
Tompkins	1,705	49.0	39,192	14,109	1,017	38.5	0	0	0	0	5,532	2,711	434
Ulster	92	43.6	0	0	0	0	4,930	296	20	246.5	0	0	0
Washington	193	43.7	15,500	5,580	469	33.0	92,457	5,547	336	275.2	0	0	0
Wayne	4,727	47.6	400,395	144,142	10,046	39.9	927,745	55,665	3,113	298.0	26,034	12,757	1,693
Wyoming	3,645	52.3	0	0	0	0	735,585	44,135	2,279	322.8	18,155	8,896	1,001
Yates	4,315	53.4	44,744	16,108	1,377	32.5	29,161	1,750	113	258.1	19,437	9,524	1,382

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	Yield Dry beans	D Alfalfa	P Alfalfa	Alfalfa	Yield Alfalfa	D Haylage	P Haylage	Haylage	Yield Haylage	D Other hay	P Other hay	Other hay	Yield Other hay
	cwt/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
New York State	15.0	1,421,137	6,707,767	600,416	2.4	3,342,328	2,983,028	592,001	5.6	1,301,748	8,539,467	740,585	1.8
Albany	0	12,398	58,519	7,212	1.7	5,029	4,488	1,409	3.6	11,518	75,558	9,141	1.3
Allegany	0	20,869	98,502	8,763	2.4	56,854	50,742	11,230	5.1	43,058	282,460	21,762	2.0
Broome	0	7,830	36,958	3,909	2.0	42,168	37,635	7,648	5.5	23,141	151,805	13,039	1.8
Cattaraugus	0	31,722	149,728	11,948	2.7	87,841	78,398	14,181	6.2	41,866	274,641	22,208	1.9
Cayuga	13.0	61,585	290,681	24,769	2.5	141,053	125,890	19,176	7.4	13,980	91,709	6,172	2.3
Chautauqua	0	27,904	131,707	10,683	2.6	165,739	147,922	27,363	6.1	58,712	385,151	29,703	2.0
Chemung	0	7,993	37,727	3,724	2.1	15,266	13,625	2,755	5.5	10,923	71,655	7,376	1.5
Chenango	0	26,867	126,812	12,145	2.2	93,503	83,451	19,870	4.7	48,969	321,237	28,068	1.7
Clinton	0	29,622	139,816	11,238	2.6	82,489	73,621	14,251	5.8	21,005	137,793	11,618	1.8
Columbia	0	21,313	100,597	10,320	2.1	61,519	54,906	9,699	6.3	24,181	158,627	12,426	1.9
Cortland	0	24,166	114,064	10,342	2.3	69,662	62,173	13,394	5.2	21,826	143,179	10,462	2.1
Delaware	0	25,704	121,323	11,834	2.2	51,535	45,995	13,006	4.0	47,549	311,921	31,320	1.5
Dutchess	0	24,081	113,662	10,064	2.4	17,134	15,292	3,022	5.7	18,089	118,664	11,308	1.6
Erie	15.1	25,947	122,470	10,625	2.4	84,961	75,828	12,383	6.9	35,121	230,394	17,437	2.0
Essex	0	6,914	32,634	4,424	1.6	17,966	16,035	3,987	4.5	9,524	62,477	5,694	1.7
Franklin	0	29,223	137,933	12,786	2.3	62,127	55,448	13,056	4.8	37,589	246,584	21,108	1.8
Fulton	0	9,302	43,905	3,883	2.4	18,243	16,282	4,401	4.1	6,098	40,003	3,828	1.6
Genesee	13.1	39,527	186,567	15,758	2.5	113,139	100,977	16,127	7.0	5,053	33,148	2,850	1.8
Greene	0	7,235	34,149	3,809	1.9	2,566	2,290	385	6.7	12,404	81,370	8,350	1.5
Herkimer	0	45,236	213,514	18,141	2.5	93,545	83,489	16,502	5.7	28,829	189,118	14,802	1.9
Jefferson	0	51,942	245,166	24,951	2.1	151,164	134,914	30,129	5.0	90,911	596,376	56,170	1.6
Lewis	0	51,245	241,876	20,409	2.5	115,112	102,737	22,201	5.2	40,308	264,420	19,982	2.0
Livingston	16.3	38,236	180,474	14,380	2.7	104,714	93,457	12,183	8.6	13,289	87,176	7,608	1.7
Madison	9.1	63,884	301,532	27,219	2.3	108,083	96,464	20,803	5.2	24,434	160,287	12,228	2.0
Monroe	14.7	18,428	86,980	7,256	2.5	11,266	10,055	2,188	5.1	3,895	25,551	1,892	2.1
Montgomery	0	39,102	184,561	20,708	1.9	80,530	71,873	18,091	4.5	28,585	187,518	17,499	1.6
Niagara	17.0	24,760	116,867	11,143	2.2	36,001	32,131	6,140	5.9	18,724	122,829	10,153	1.8
Oneida	0	68,283	322,296	26,790	2.5	92,881	82,896	18,528	5.0	41,893	274,818	21,205	2.0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	Yield Dry beans	D Alfalfa	P Alfalfa	Alfalfa	Yield Alfalfa	D Haylage	P Haylage	Haylage	Yield Haylage	D Other hay	P Other hay	Other hay	Yield Other hay
	cwt/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
Onondaga	11.2	45,936	216,818	18,010	2.6	92,536	82,588	13,144	7.0	8,566	56,193	4,137	2.1
Ontario	15.6	38,886	183,542	15,277	2.5	87,235	77,857	10,796	8.1	12,483	81,888	6,552	1.9
Orange	0	18,140	85,621	7,402	2.5	33,172	29,606	6,379	5.2	17,486	114,708	10,544	1.7
Orleans	12.6	15,265	72,051	5,946	2.6	18,310	16,342	3,074	6.0	6,658	43,676	3,516	1.9
Oswego	0	16,661	78,640	6,841	2.4	22,487	20,070	4,573	4.9	25,516	167,385	12,403	2.1
Otsego	0	46,079	217,493	19,815	2.3	85,066	75,921	19,203	4.4	40,526	265,851	24,509	1.7
Rensselaer	0	15,977	75,411	8,399	1.9	32,380	28,899	6,997	4.6	13,957	91,558	9,766	1.4
St. Lawrence	0	55,497	261,946	21,228	2.6	213,984	190,981	35,444	6.0	112,188	735,953	65,841	1.7
Saratoga	0	14,638	69,091	7,778	1.9	32,869	29,336	5,804	5.7	10,542	69,156	7,064	1.5
Schenectady	0	2,672	12,612	1,471	1.8	2,784	2,485	736	3.8	4,342	28,484	3,291	1.3
Schoharie	0	29,940	141,317	14,028	2.1	46,465	41,470	10,652	4.4	21,608	141,748	14,481	1.5
Schuyler	19.4	12,755	60,204	6,317	2.0	25,302	22,582	3,985	6.3	11,422	74,928	7,421	1.5
Seneca	14.7	23,663	111,689	9,140	2.6	24,815	22,147	4,123	6.0	8,877	58,233	4,803	1.8
Steuben	17.4	64,295	303,472	26,353	2.4	110,382	98,516	22,705	4.9	88,071	577,746	51,211	1.7
Suffolk	0	522	2,464	229	2.3	0	0	0	0	642	4,212	291	2.2
Sullivan	0	6,754	31,879	2,824	2.4	20,280	18,100	5,146	3.9	21,003	137,780	12,579	1.7
Tioga	0	12,003	56,654	6,224	1.9	52,999	47,302	10,697	5.0	21,185	138,974	13,090	1.6
Tompkins	12.7	18,639	87,976	7,538	2.5	52,364	46,735	8,396	6.2	12,996	85,254	7,324	1.8
Ulster	0	4,858	22,930	1,916	2.5	8,922	7,963	1,718	5.2	11,857	77,782	8,083	1.5
Washington	0	40,012	188,857	17,588	2.3	122,400	109,242	24,117	5.1	31,322	205,472	19,023	1.6
Wayne	15.4	23,792	112,298	9,053	2.6	22,317	19,918	3,357	6.6	7,846	51,470	3,440	2.3
Wyoming	18.1	45,080	212,778	15,820	2.8	220,840	197,100	30,894	7.1	19,143	125,578	9,067	2.1
Yates	14.1	25,473	120,233	11,255	2.3	32,329	28,854	5,953	5.4	10,356	67,935	5,671	1.8

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	D Small grain hay	P Small grain hay	Small grain hay	Yield Small grain hay	D Wild hay	P Wild hay	Wild hay	Yield Wild hay
	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
New York State	54,353	243,501	32,439	1.7	141,037	925,203	104,599	1.3
Albany	159	712	155	1.0	2,575	16,892	2,708	1.0
Allegany	1,147	5,139	575	2.0	3,244	21,281	2,308	1.4
Broome	351	1,572	244	1.4	4,251	27,887	2,721	1.6
Cattaraugus	836	3,745	562	1.5	2,662	17,463	2,253	1.2
Cayuga	2,048	9,175	1,304	1.6	1,267	8,312	873	1.5
Chautauqua	2,039	9,135	1,138	1.8	5,001	32,807	3,392	1.5
Chemung	793	3,553	590	1.3	1,320	8,659	1,172	1.1
Chenango	1,391	6,232	617	2.3	5,474	35,909	3,890	1.4
Clinton	1,734	7,768	732	2.4	2,134	13,999	1,724	1.2
Columbia	2,426	10,868	863	2.8	2,517	16,512	2,803	0.9
Cortland	2,939	13,167	1,382	2.1	2,118	13,894	1,583	1.3
Delaware	3,271	14,654	1,242	2.6	7,298	47,875	5,323	1.4
Dutchess	1,147	5,139	647	1.8	2,535	16,630	1,741	1.5
Erie	246	1,102	336	0.7	2,919	19,149	1,868	1.6
Essex	0	0	0	0	0	0	0	0
Franklin	692	3,100	434	1.6	4,171	27,362	2,570	1.6
Fulton	185	829	167	1.1	416	2,729	437	1.0
Genesee	747	3,347	555	1.3	776	5,091	818	0.9
Greene	294	1,317	406	0.7	3,199	20,985	2,347	1.4
Herkimer	827	3,705	548	1.5	2,454	16,098	1,722	1.4
Jefferson	2,936	13,153	1,767	1.7	8,171	53,602	6,015	1.4
Lewis	1,420	6,362	913	1.6	4,044	26,529	2,164	1.9
Livingston	1,453	6,509	628	2.3	642	4,212	551	1.2
Madison	1,385	6,205	1,183	1.2	2,587	16,971	2,264	1.1
Monroe	272	1,219	190	1.4	1,170	7,675	351	3.3
Montgomery	992	4,444	681	1.5	2,253	14,780	1,501	1.5
Niagara	1,003	4,493	465	2.2	778	5,104	700	1.1
Oneida	938	4,202	729	1.3	4,283	28,096	2,896	1.5

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1997

	D Small grain hay	P Small grain hay	Small grain hay	Yield Small grain hay	D Wild hay	P Wild hay	Wild hay	Yield Wild hay
	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
Onondaga	1,997	8,947	1,084	1.8	873	5,727	583	1.5
Ontario	978	4,381	946	1.0	310	2,034	253	1.2
Orange	1,068	4,785	656	1.6	5,564	36,500	3,569	1.6
Orleans	555	2,486	184	3.0	547	3,588	412	1.3
Oswego	806	3,611	414	1.9	3,048	19,995	2,149	1.4
Otsego	918	4,113	575	1.6	4,515	29,618	4,283	1.1
Rensselaer	551	2,468	409	1.3	1,617	10,608	1,506	1.1
St. Lawrence	4,208	18,852	2,502	1.7	13,706	89,911	10,091	1.4
Saratoga	479	2,146	375	1.3	1,803	11,828	1,182	1.5
Schenectady	175	784	177	1.0	913	5,989	868	1.1
Schoharie	631	2,827	293	2.2	3,325	21,812	3,130	1.1
Schuyler	179	802	92	1.9	1,053	6,908	898	1.2
Seneca	303	1,357	286	1.1	359	2,355	456	0.8
Steuben	2,801	12,548	2,206	1.3	6,900	45,264	5,517	1.3
Suffolk	0	0	0	0	0	0	0	0
Sullivan	363	1,626	277	1.3	3,649	23,937	2,662	1.4
Tioga	353	1,581	163	2.2	3,582	23,498	2,611	1.4
Tompkins	683	3,060	479	1.4	1,341	8,797	971	1.4
Ulster	11	49	0	0	1,203	7,892	0	0
Washington	1,403	6,285	933	1.5	2,232	14,642	1,589	1.4
Wayne	190	851	92	2.1	1,543	10,122	903	1.7
Wyoming	892	3,996	585	1.5	1,280	8,397	895	1.4
Yates	1,022	4,579	602	1.7	1,301	8,535	1,229	1.1

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	Total P Balance	P per acre harvested cropland	Total P Manure	Total P Fertilizer	Total P Crops	Total P Cattle	Total P Hogs	Total P Poultry	Total P Sheep	Total P Horses	Total Animal Units
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	(1000 lbs/AU)
New York State	58,290,576	16.49	44,598,752	56,558,071	42,866,247	44,005,262	344,414	128,256	88,896	31,924	1,507,845
Albany	-8,869	-0.34	158,507	99,667	267,044	154,816	1,112	454	1,715	410	7,281
Allegany	519,495	9.17	765,000	420,862	666,367	736,550	24,643	587	2,638	580	27,279
Broome	157,730	4.45	549,958	41,215	433,443	543,641	1,955	3,060	614	688	19,834
Cattaraugus	891,467	11.92	1,367,686	467,261	943,480	1,355,564	4,591	5,382	1,207	944	46,402
Cayuga	3,482,404	22.89	1,441,195	4,017,208	1,975,999	1,422,707	14,958	40	2,897	592	48,721
Chautauqua	1,644,202	14.65	1,678,810	1,148,058	1,182,667	1,665,550	10,787	688	805	980	56,595
Chemung	178,700	8.62	225,979	180,153	227,431	219,917	4,910	0	907	245	8,249
Chenango	613,413	7.98	1,459,402	185,840	1,031,829	1,454,429	1,757	880	1,522	815	48,086
Clinton	1,159,397	18.27	1,115,738	881,050	837,391	1,113,679	781	0	949	328	35,950
Columbia	360,724	5.99	671,758	486,251	797,285	663,852	4,849	301	1,744	1,011	23,937
Cortland	756,903	13.34	1,127,468	401,690	772,255	1,111,923	9,103	2,442	3,655	345	37,272
Delaware	566,822	8.68	1,242,900	177,035	853,112	1,231,925	2,546	6,770	1,045	614	41,008
Dutchess	264,034	6.48	327,628	447,884	511,479	317,086	992	4,563	3,583	1,403	14,492
Erie	1,426,691	19.48	931,413	1,328,744	833,466	918,002	10,181	444	1,686	1,100	31,781
Essex	92,357	4.93	166,978	90,457	165,079	165,311	937	211	206	314	6,410
Franklin	688,578	11.71	1,092,135	358,039	761,596	1,083,538	2,475	4,843	1,101	179	34,405
Fulton	114,624	6.80	246,436	80,866	212,678	245,410	301	0	497	228	8,430
Genesee	3,976,822	35.02	1,093,518	4,119,697	1,236,393	1,056,798	32,800	3	3,385	532	36,233
Greene	-3,623	-0.21	118,769	60,610	183,002	117,718	0	0	799	252	5,004
Herkimer	731,589	10.32	1,290,298	387,764	946,474	1,285,288	2,546	1,273	847	345	41,395
Jefferson	1,189,175	8.66	1,970,157	826,744	1,607,725	1,965,899	2,130	109	1,555	464	63,987
Lewis	1,400,220	17.36	1,624,729	895,915	1,120,424	1,622,775	1,032	214	491	217	50,824
Livingston	1,763,686	14.77	1,055,641	2,173,611	1,465,565	1,048,072	3,218	68	3,587	695	36,026
Madison	1,229,109	12.74	1,694,674	870,441	1,336,007	1,690,518	1,433	470	1,378	875	54,662
Monroe	805,979	11.70	312,583	1,193,881	700,485	306,954	2,331	1,455	891	952	11,957
Montgomery	1,123,263	13.90	1,180,045	964,951	1,021,733	1,174,225	2,966	375	2,131	349	38,685
Niagara	1,807,856	23.24	419,818	2,174,070	786,032	401,130	16,572	170	1,298	649	15,643
Oneida	1,517,716	13.83	1,673,592	1,277,957	1,433,834	1,667,611	2,738	713	1,682	850	54,714

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	Total P Balance	P per acre harvested cropland	Total P Manure	Total P Fertilizer	Total P Crops	Total P Cattle	Total P Hogs	Total P Poultry	Total P Sheep	Total P Horses	Total Animal Units
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	(1000 lbs/AU)
Onondaga	1,964,006	22.35	1,133,837	1,998,746	1,168,576	1,060,616	1,128	69,504	1,726	863	36,010
Ontario	3,567,340	31.62	743,070	4,137,534	1,313,265	715,223	23,806	5	3,299	737	26,483
Orange	811,249	15.79	610,412	786,509	585,673	602,892	3,616	29	2,422	1,453	22,057
Orleans	2,007,095	25.33	288,586	2,455,950	737,442	274,072	12,269	405	1,309	532	10,959
Oswego	639,607	16.31	478,865	607,391	446,648	471,763	4,621	606	1,335	540	17,791
Otsego	879,724	10.55	1,407,085	568,007	1,095,368	1,399,032	4,129	74	3,011	839	47,458
Rensselaer	798,092	19.43	452,863	908,453	563,224	442,460	4,995	2,433	2,645	330	16,150
St. Lawrence	1,469,642	8.94	2,558,795	1,099,180	2,188,333	2,547,332	6,673	1,232	2,532	1,026	84,248
Saratoga	119,736	3.61	361,594	215,361	457,219	359,051	1,123	18	579	823	13,283
Schenectady	-2,143	-0.28	35,129	19,092	56,364	34,428	207	0	142	353	1,887
Schoharie	237,862	4.19	674,452	250,291	686,881	668,145	1,101	2,541	2,303	362	23,114
Schuyler	28,447	1.09	225,372	86,298	283,224	221,914	0	3	3,254	202	8,329
Seneca	287,286	3.71	399,250	787,429	899,393	375,489	22,895	31	570	265	14,129
Steuben	2,492,536	16.14	1,577,536	2,654,482	1,739,482	1,555,284	18,832	285	2,260	876	54,644
Suffolk	1,842,976	75.92	4,711	2,007,663	169,398	119	1,283	2,647	120	542	914
Sullivan	302,381	14.96	326,224	211,706	235,549	316,431	485	6,554	2,249	505	11,865
Tioga	652,816	13.69	697,044	528,289	572,517	693,866	1,771	36	931	440	23,804
Tompkins	596,226	12.65	551,612	661,259	616,645	544,979	3,541	5	2,447	640	19,102
Ulster	43,618	1.39	121,716	125,760	203,858	104,507	10,081	5,181	1,121	827	6,387
Washington	1,032,290	10.37	1,687,480	856,462	1,511,652	1,683,235	1,118	0	2,440	687	54,928
Wayne	1,962,886	20.19	525,815	2,249,499	812,429	495,526	29,001	22	683	584	19,082
Wyoming	3,439,766	30.42	2,271,377	2,790,596	1,622,207	2,257,312	10,587	119	2,834	524	72,742
Yates	385,006	7.24	457,469	503,534	575,997	436,617	16,011	803	3,709	328	15,906

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	D Milking cows	Milking cows	P Milking cows	D Beef cattle	Beef cattle	P Beef cattle	D Other cattle	Other cattle	P Other cattle	D Breeding hogs	Breeding hogs	P Breeding hogs	D Other hogs
	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number
New York State	721,189	990,192	34,009,831	72,708	72,708	180,221	575,065	373,792	9,815,209	12,241	5,215	87,034	75,242
Albany	2,205	3,027	103,983	1,668	1,668	4,134	2,736	1,778	46,698	40	17	284	242
Allegany	11,420	15,680	538,544	2,114	2,114	5,240	11,294	7,341	192,766	907	386	6,449	5,319
Broome	8,708	11,956	410,652	1,802	1,802	4,467	7,530	4,895	128,522	71	30	505	424
Cattaraugus	22,261	30,564	1,049,784	2,695	2,695	6,680	17,524	11,391	299,100	217	92	1,543	891
Cayuga	23,188	31,837	1,093,500	2,837	2,837	7,032	18,876	12,269	322,176	610	260	4,337	3,105
Chautauqua	26,628	36,560	1,255,723	2,716	2,716	6,732	23,617	15,351	403,095	260	111	1,849	2,613
Chemung	3,445	4,730	162,459	760	760	1,884	3,256	2,116	55,573	134	57	953	1,157
Chenango	24,184	33,205	1,140,469	1,657	1,657	4,107	18,154	11,800	309,852	70	30	498	368
Clinton	18,719	25,701	882,751	936	936	2,320	13,394	8,706	228,609	55	23	391	114
Columbia	10,582	14,529	499,026	1,391	1,391	3,448	9,455	6,146	161,378	238	101	1,692	923
Cortland	18,196	24,983	858,087	1,536	1,536	3,807	14,649	9,522	250,029	307	131	2,183	2,023
Delaware	20,706	28,429	976,454	1,865	1,865	4,623	14,697	9,553	250,848	66	28	469	607
Dutchess	4,637	6,367	218,672	2,066	2,066	5,121	5,466	3,553	93,294	65	28	462	155
Erie	15,675	21,522	739,202	1,341	1,341	3,324	10,281	6,683	175,476	374	159	2,659	2,199
Essex	2,427	3,332	114,452	680	680	1,686	2,881	1,873	49,173	36	15	256	199
Franklin	18,227	25,026	859,549	381	381	944	13,068	8,494	223,045	95	40	675	526
Fulton	4,098	5,627	193,253	467	467	1,158	2,988	1,942	50,999	11	5	78	65
Genesee	17,334	23,800	817,437	943	943	2,337	13,887	9,027	237,023	1,104	470	7,849	7,294
Greene	1,799	2,470	84,837	926	926	2,295	1,792	1,165	30,586	0	0	0	0
Herkimer	21,754	29,868	1,025,875	1,052	1,052	2,608	15,046	9,780	256,805	41	17	292	659
Jefferson	32,768	44,990	1,545,273	2,273	2,273	5,634	24,314	15,804	414,991	109	46	775	396
Lewis	27,851	38,239	1,313,397	435	435	1,078	18,063	11,741	308,299	23	10	164	254
Livingston	16,457	22,595	776,079	1,741	1,741	4,315	15,683	10,194	267,677	213	91	1,514	498
Madison	28,542	39,188	1,345,984	957	957	2,372	20,047	13,031	342,162	74	32	526	265
Monroe	4,648	6,382	219,190	668	668	1,656	5,045	3,279	86,108	44	19	313	590
Montgomery	19,519	26,800	920,477	1,521	1,521	3,770	14,646	9,520	249,978	191	81	1,358	470
Niagara	6,073	8,338	286,391	1,291	1,291	3,200	6,535	4,248	111,539	466	199	3,313	3,876
Oneida	27,885	38,286	1,315,001	1,619	1,619	4,013	20,424	13,276	348,597	131	56	931	528

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	D Milking cows	Milking cows	P Milking cows	D Beef cattle	Beef cattle	P Beef cattle	D Other cattle	Other cattle	P Other cattle	D Breeding hogs	Breeding hogs	P Breeding hogs	D Other hogs
	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number
Onondaga	17,554	24,102	827,812	1,128	1,128	2,796	13,476	8,759	230,008	23	10	164	282
Ontario	11,326	15,551	534,112	1,826	1,826	4,526	10,346	6,725	176,586	807	344	5,738	5,282
Orange	10,328	14,180	487,048	1,048	1,048	2,598	6,635	4,313	113,246	116	49	825	816
Orleans	3,841	5,274	181,134	793	793	1,966	5,330	3,465	90,972	443	189	3,150	2,666
Oswego	7,327	10,060	345,527	1,977	1,977	4,900	7,109	4,621	121,336	252	107	1,792	827
Otsego	23,151	31,786	1,091,755	2,514	2,514	6,231	17,638	11,465	301,045	218	93	1,550	754
Rensselaer	7,077	9,717	333,737	1,494	1,494	3,703	6,153	3,999	105,019	117	50	832	1,217
St. Lawrence	41,899	57,527	1,975,873	3,218	3,218	7,976	33,014	21,459	563,483	276	118	1,962	1,377
Saratoga	5,812	7,980	274,082	821	821	2,035	4,859	3,158	82,933	67	29	476	189
Schenectady	514	706	24,239	275	275	682	557	362	9,507	6	3	43	48
Schoharie	10,881	14,940	513,126	1,621	1,621	4,018	8,847	5,751	151,001	36	15	256	247
Schuyler	3,568	4,899	168,260	892	892	2,211	3,014	1,959	51,443	0	0	0	0
Seneca	5,922	8,131	279,270	1,008	1,008	2,499	5,491	3,569	93,720	841	358	5,980	4,945
Steuben	24,723	33,945	1,165,887	3,976	3,976	9,855	22,237	14,454	379,541	424	181	3,015	4,624
Suffolk	0	0	0	0	0	0	7	5	119	52	22	370	267
Sullivan	5,190	7,126	244,750	728	728	1,804	4,094	2,661	69,876	23	10	164	94
Tioga	11,433	15,698	539,157	1,544	1,544	3,827	8,840	5,746	150,881	112	48	796	285
Tompkins	8,641	11,864	407,492	752	752	1,864	7,946	5,165	135,622	181	77	1,287	659
Ulster	1,377	1,891	64,937	1,325	1,325	3,284	2,126	1,382	36,287	343	146	2,439	2,234
Washington	28,003	38,448	1,320,565	1,532	1,532	3,797	21,026	13,667	358,872	62	26	441	198
Wayne	7,747	10,637	365,333	1,459	1,459	3,616	7,416	4,820	126,576	1,084	462	7,707	6,225
Wyoming	37,792	51,888	1,782,195	1,389	1,389	3,443	27,635	17,963	471,674	523	223	3,719	2,008
Yates	7,147	9,813	337,038	945	945	2,342	5,697	3,703	97,236	261	111	1,856	4,138

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	Other hogs	P Other hogs	D Breeding turkeys	Breeding turkeys	P Breeding turkeys	D Slaughter turkeys	Slaughter turkeys	P Slaughter turkeys	D Layers	Layers	P Layers	D Broilers	Broilers
	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU
New York State	9,405	257,380	386	4	208	7,242	145	2,529	303,352	910	115,706	211,237	422
Albany	30	828	17	0	9	14	0	5	1,019	3	389	91	0
Allegany	665	18,195	47	0	25	0	0	0	1,280	4	488	0	0
Broome	53	1,450	0	0	0	0	0	0	7,213	22	2,751	0	0
Cattaraugus	111	3,048	5	0	3	0	0	0	13,395	40	5,109	513	1
Cayuga	388	10,621	10	0	5	99	2	35	0	0	0	0	0
Chautauqua	327	8,938	0	0	0	0	0	0	1,552	5	592	634	1
Chemung	145	3,958	0	0	0	0	0	0	0	0	0	0	0
Chenango	46	1,259	0	0	0	63	1	22	2,165	6	826	287	1
Clinton	14	390	0	0	0	0	0	0	0	0	0	0	0
Columbia	115	3,157	0	0	0	0	0	0	0	0	0	488	1
Cortland	253	6,920	0	0	0	0	0	0	6,279	19	2,395	272	1
Delaware	76	2,076	0	0	0	64	1	22	17,412	52	6,641	580	1
Dutchess	19	530	7	0	4	1,872	37	654	9,669	29	3,688	0	0
Erie	275	7,522	74	1	40	1,156	23	404	0	0	0	0	0
Essex	25	681	0	0	0	0	0	0	474	1	181	62	0
Franklin	66	1,799	0	0	0	0	0	0	12,696	38	4,843	0	0
Fulton	8	222	0	0	0	0	0	0	0	0	0	0	0
Genesee	912	24,951	0	0	0	0	0	0	0	0	0	92	0
Greene	0	0	0	0	0	0	0	0	0	0	0	0	0
Herkimer	82	2,254	0	0	0	0	0	0	3,327	10	1,269	125	0
Jefferson	50	1,355	17	0	9	0	0	0	0	0	0	223	0
Lewis	32	869	0	0	0	0	0	0	444	1	169	383	1
Livingston	62	1,704	26	0	14	62	1	22	0	0	0	326	1
Madison	33	906	0	0	0	0	0	0	1,136	3	433	188	0
Monroe	74	2,018	0	0	0	2,010	40	702	1,961	6	748	151	0
Montgomery	59	1,608	0	0	0	0	0	0	982	3	375	0	0
Niagara	485	13,259	0	0	0	311	6	109	0	0	0	1,150	2
Oneida	66	1,806	8	0	4	0	0	0	1,824	5	696	187	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	Other hogs	P Other hogs	D Breeding turkeys	Breeding turkeys	P Breeding turkeys	D Slaughter turkeys	Slaughter turkeys	P Slaughter turkeys	D Layers	Layers	P Layers	D Broilers	Broilers
	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU
Onondaga	35	965	0	0	0	0	0	0	182,173	547	69,485	158	0
Ontario	660	18,068	0	0	0	0	0	0	0	0	0	156	0
Orange	102	2,791	0	0	0	0	0	0	0	0	0	0	0
Orleans	333	9,120	11	0	6	26	1	9	989	3	377	145	0
Oswego	103	2,829	17	0	9	74	1	26	1,243	4	474	312	1
Otsego	94	2,579	16	0	9	0	0	0	0	0	0	110	0
Rensselaer	152	4,163	0	0	0	48	1	17	6,229	19	2,376	143	0
St. Lawrence	172	4,710	19	0	10	128	3	45	2,851	9	1,087	677	1
Saratoga	24	647	18	0	10	0	0	0	0	0	0	241	0
Schenectady	6	164	0	0	0	0	0	0	0	0	0	0	0
Schoharie	31	845	0	0	0	0	0	0	6,297	19	2,402	0	0
Schuyler	0	0	5	0	3	0	0	0	0	0	0	0	0
Seneca	618	16,915	0	0	0	90	2	31	0	0	0	0	0
Steuben	578	15,817	20	0	11	742	15	259	0	0	0	436	1
Suffolk	33	913	0	0	0	0	0	0	4,784	14	1,825	10,201	20
Sullivan	12	322	34	0	18	46	1	16	0	0	0	192,028	384
Tioga	36	975	0	0	0	0	0	0	0	0	0	80	0
Tompkins	82	2,254	0	0	0	0	0	0	0	0	0	145	0
Ulster	279	7,642	0	0	0	0	0	0	13,545	41	5,166	0	0
Washington	25	677	0	0	0	0	0	0	0	0	0	0	0
Wayne	778	21,294	27	0	15	0	0	0	0	0	0	208	0
Wyoming	251	6,869	8	0	4	260	5	91	0	0	0	324	1
Yates	517	14,155	0	0	0	177	4	62	1,868	6	713	121	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	P Broilers	D Hens and pullets	Hens and pullets	P Hens and pullets	D Chickens and pullets	Chickens and pullets	P Chickens and pullets	D Sheep	Sheep	P Sheep	D Horse	Horse	P Horse
	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs
New York State	7,171	7,475	22	2,485	864	2	156	76,549	7,655	88,896	43,065	47,372	31,924
Albany	3	102	0	34	80	0	14	1,477	148	1,715	553	608	410
Allegany	0	221	1	73	0	0	0	2,272	227	2,638	783	861	580
Broome	0	929	3	309	0	0	0	529	53	614	928	1,021	688
Cattaraugus	17	631	2	210	235	1	42	1,039	104	1,207	1,273	1,400	944
Cayuga	0	0	0	0	0	0	0	2,495	250	2,897	798	878	592
Chautauqua	22	225	1	75	0	0	0	693	69	805	1,322	1,454	980
Chemung	0	0	0	0	0	0	0	781	78	907	330	363	245
Chenango	10	43	0	14	44	0	8	1,311	131	1,522	1,099	1,209	815
Clinton	0	0	0	0	0	0	0	817	82	949	443	487	328
Columbia	17	855	3	284	0	0	0	1,502	150	1,744	1,364	1,500	1,011
Cortland	9	113	0	38	0	0	0	3,147	315	3,655	466	513	345
Delaware	20	190	1	63	131	0	24	900	90	1,045	828	911	614
Dutchess	0	655	2	218	0	0	0	3,085	309	3,583	1,893	2,082	1,403
Erie	0	0	0	0	0	0	0	1,452	145	1,686	1,484	1,632	1,100
Essex	2	0	0	0	158	0	29	177	18	206	423	465	314
Franklin	0	0	0	0	0	0	0	948	95	1,101	241	265	179
Fulton	0	0	0	0	0	0	0	428	43	497	308	339	228
Genesee	3	0	0	0	0	0	0	2,915	292	3,385	718	790	532
Greene	0	0	0	0	0	0	0	688	69	799	340	374	252
Herkimer	4	0	0	0	0	0	0	729	73	847	465	512	345
Jefferson	8	278	1	92	0	0	0	1,339	134	1,555	626	689	464
Lewis	13	94	0	31	0	0	0	423	42	491	293	322	217
Livingston	11	65	0	22	0	0	0	3,089	309	3,587	938	1,032	695
Madison	6	91	0	30	0	0	0	1,187	119	1,378	1,181	1,299	875
Monroe	5	0	0	0	0	0	0	767	77	891	1,284	1,412	952
Montgomery	0	0	0	0	0	0	0	1,835	184	2,131	471	518	349
Niagara	39	66	0	22	0	0	0	1,118	112	1,298	875	963	649
Oneida	6	20	0	7	0	0	0	1,448	145	1,682	1,146	1,261	850

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	P Broilers	D Hens and pullets	Hens and pullets	P Hens and pullets	D Chickens and pullets	Chickens and pullets	P Chickens and pullets	D Sheep	Sheep	P Sheep	D Horse	Horse	P Horse
	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs
Onondaga	5	40	0	13	0	0	0	1,486	149	1,726	1,164	1,280	863
Ontario	5	0	0	0	0	0	0	2,841	284	3,299	994	1,093	737
Orange	0	87	0	29	0	0	0	2,086	209	2,422	1,960	2,156	1,453
Orleans	5	23	0	8	0	0	0	1,127	113	1,309	717	789	532
Oswego	11	192	1	64	123	0	22	1,150	115	1,335	728	801	540
Otsego	4	184	1	61	0	0	0	2,593	259	3,011	1,132	1,245	839
Rensselaer	5	108	0	36	0	0	0	2,278	228	2,645	445	490	330
St. Lawrence	23	151	0	50	93	0	17	2,180	218	2,532	1,384	1,522	1,026
Saratoga	8	0	0	0	0	0	0	499	50	579	1,110	1,221	823
Schenectady	0	0	0	0	0	0	0	122	12	142	476	524	353
Schoharie	0	420	1	140	0	0	0	1,983	198	2,303	489	538	362
Schuyler	0	0	0	0	0	0	0	2,802	280	3,254	272	299	202
Seneca	0	0	0	0	0	0	0	491	49	570	358	394	265
Steuben	15	0	0	0	0	0	0	1,946	195	2,260	1,182	1,300	876
Suffolk	346	1,432	4	476	0	0	0	103	10	120	731	804	542
Sullivan	6,519	0	0	0	0	0	0	1,937	194	2,249	681	749	505
Tioga	3	101	0	34	0	0	0	802	80	931	593	652	440
Tompkins	5	0	0	0	0	0	0	2,107	211	2,447	864	950	640
Ulster	0	44	0	15	0	0	0	965	97	1,121	1,115	1,227	827
Washington	0	0	0	0	0	0	0	2,101	210	2,440	927	1,020	687
Wayne	7	0	0	0	0	0	0	588	59	683	788	867	584
Wyoming	11	40	0	13	0	0	0	2,440	244	2,834	707	778	524
Yates	4	75	0	25	0	0	0	3,194	319	3,709	443	487	328

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	D Fertilizer	P Fertilizer	Fertilized cropland	Manured cropland	Harvested cropland	D Corn grain	P Corn grain	Corn grain	Yield Corn grain	D Corn silage	P Corn silage	Corn silage	Yield Corn silage
	tons P ₂ O ₅	lbs P	acres	acres	acres	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre
New York State	64,712	56,558,071	2,174,132		3,534,898	47,699,575	7,154,936	518,805	91.9	7,296,183	11,863,594	543,945	13.4
Albany		99,667	11,706		25,712	83,770	12,566	1,026	81.6	43,614	70,916	3,662	11.9
Allegany		420,862	22,356		56,634	218,384	32,758	2,275	96.0	113,610	184,730	8,840	12.9
Broome		41,215	13,412		35,428	169,502	25,425	1,599	106.0	84,293	137,060	6,207	13.6
Cattaraugus		467,261	37,477		74,799	396,449	59,467	4,216	94.0	196,570	319,623	15,770	12.5
Cayuga		4,017,208	123,374		152,169	5,180,145	777,022	57,018	90.9	249,957	406,430	17,846	14.0
Chautauqua		1,148,058	69,050		112,219	443,587	66,538	4,860	91.3	218,058	354,562	16,396	13.3
Chemung		180,153	9,545		20,731	216,500	32,475	2,429	89.1	31,044	50,478	2,810	11.0
Chenango		185,840	41,005		76,868	572,864	85,930	5,309	107.9	199,179	323,865	14,979	13.3
Clinton		881,050	40,995		63,472	714,577	107,187	6,072	117.7	199,553	324,473	13,659	14.6
Columbia		486,251	38,303		60,244	1,110,910	166,637	9,127	121.7	134,328	218,417	8,872	15.1
Cortland		401,690	31,474		56,729	395,073	59,261	4,230	93.4	179,232	291,431	13,948	12.9
Delaware		177,035	27,362		65,298	90,809	13,621	1,061	85.6	139,560	226,925	9,565	14.6
Dutchess		447,884	23,670		40,775	576,625	86,494	5,375	107.3	70,297	114,303	4,593	15.3
Erie		1,328,744	47,207		73,247	657,715	98,657	7,658	85.9	151,450	246,258	12,414	12.2
Essex		90,457	635		18,746	34,874	5,231	332	105.0	21,716	35,310	2,178	10.0
Franklin		358,039	6,691		58,827	126,613	18,992	1,058	119.7	133,822	217,595	8,992	14.9
Fulton		80,866	30,849		16,855	127,601	19,140	1,335	95.6	31,783	51,679	2,671	11.9
Genesee		4,119,697	7,462		113,549	2,195,201	329,280	26,257	83.6	211,315	343,598	15,437	13.7
Greene		60,610	99,569		16,962	88,723	13,308	778	114.0	15,590	25,349	1,226	12.7
Herkimer		387,764	0		70,902	462,193	69,329	4,833	95.6	178,209	289,768	14,486	12.3
Jefferson		826,744	32,287		137,367	752,791	112,919	8,377	89.9	291,424	473,855	22,273	13.1
Lewis		895,915	0		80,635	170,028	25,504	1,948	87.3	208,059	338,304	15,307	13.6
Livingston		2,173,611	44,000		119,405	2,751,669	412,750	31,207	88.2	200,022	325,236	14,414	13.9
Madison		870,441	93,299		96,511	1,182,128	177,319	14,348	82.4	292,764	476,034	24,391	12.0
Monroe		1,193,881	60,188		68,878	1,702,635	255,395	18,782	90.7	62,911	102,293	3,884	16.2
Montgomery		964,951	62,043		80,798	902,298	135,345	9,320	96.8	198,344	322,507	16,004	12.4
Niagara		2,174,070	0		77,800	1,749,900	262,485	22,518	77.7	65,930	107,202	4,942	13.3
Oneida		1,277,957	60,911		109,725	1,621,965	243,295	17,469	92.8	222,785	362,248	19,309	11.5

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	D Fertilizer	P Fertilizer	Fertilized cropland	Manured cropland	Harvested cropland	D Corn grain	P Corn grain	Corn grain	Yield Corn grain	D Corn silage	P Corn silage	Corn silage	Yield Corn silage
	tons P ₂ O ₅	lbs P	acres	acres	acres	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre
Onondaga	1,998,746	67,370			87,889	2,029,807	304,471	23,309	87.1	192,847	313,569	13,958	13.8
Ontario	4,137,534	59,274			112,832	3,294,871	494,231	34,860	94.5	133,776	217,520	9,558	14.0
Orange	786,509	91,460			51,383	449,063	67,359	4,735	94.8	136,188	221,442	9,591	14.2
Orleans	2,455,950	33,487			79,250	2,113,055	316,958	23,075	91.6	49,581	80,619	3,409	14.5
Oswego	607,391	79,706			39,208	407,807	61,171	4,340	94.0	70,995	115,438	6,343	11.2
Otsego	568,007	25,170			83,416	488,838	73,326	4,843	100.9	213,881	347,771	15,798	13.5
Rensselaer	908,453	0			41,084	980,884	147,133	8,182	119.9	99,847	162,351	6,385	15.6
St. Lawrence	1,099,180	448			164,320	574,577	86,187	5,664	101.4	423,363	688,388	30,317	14.0
Saratoga	215,361	73,347			33,169	591,400	88,710	5,571	106.2	84,534	137,452	5,512	15.3
Schenectady	19,092	18,384			7,708	0	0	0	0	5,513	8,964	409	13.5
Schoharie	250,291	1,849			56,716	585,371	87,806	4,965	117.9	102,018	165,881	7,903	12.9
Schuyler	86,298	21,515			26,212	226,761	34,014	2,712	83.6	42,041	68,359	3,233	13.0
Seneca	787,429	12,189			77,405	2,285,886	342,883	25,350	90.2	61,918	100,679	5,173	12.0
Steuben	2,654,482	66,677			154,440	1,323,278	198,492	15,887	83.3	237,098	385,521	19,549	12.1
Suffolk	2,007,663	84,284			24,276	157,311	23,597	1,237	127.2	0	0	0	0
Sullivan	211,706	22,936			20,209	94,967	14,245	1,036	91.7	31,455	51,146	2,273	13.8
Tioga	528,289	11,155			47,678	467,124	70,069	4,362	107.1	110,250	179,267	8,171	13.5
Tompkins	661,259	23,256			47,146	1,054,247	158,137	12,252	86.0	87,947	143,002	6,206	14.2
Ulster	125,760	31,426			31,355	276,343	41,451	2,381	116.1	31,902	51,873	2,084	15.3
Washington	856,462	247			99,532	1,284,011	192,602	12,416	103.4	413,989	673,146	27,206	15.2
Wayne	2,249,499	67,322			97,199	2,394,739	359,211	28,490	84.1	80,959	131,639	6,773	12.0
Wyoming	2,790,596	1,067			113,091	844,381	126,657	10,278	82.2	466,544	758,601	33,233	14.0
Yates	503,534	87,307			53,202	1,079,325	161,899	12,043	89.6	74,118	120,516	5,643	13.1

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	D Sorghum grain	P Sorghum grain	Sorghum grain	Yield Sorghum grain	D Sorghum forage	P Sorghum forage	Sorghum forage	Yield Sorghum forage	D Barley	P Barley	Barley	Yield Barley	D Buckwheat
	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre	bushels	lbs	acres	bu/acre	bushels
New York State	0	0	0	0	25,804	62,962	2,875	9.0	465,333	83,760	9,406	49.5	24,335
Albany	0	0	0	0	0	0	0	0	0	0	0	0	0
Allegany	0	0	0	0	1,231	3,004	202	6.1	8,075	1,454	217	37.2	366
Broome	0	0	0	0	552	1,347	68	8.1	0	0	0	0	0
Cattaraugus	0	0	0	0	583	1,423	111	5.3	9,310	1,676	234	39.8	0
Cayuga	0	0	0	0	2,183	5,327	140	15.6	43,431	7,818	982	44.2	1,860
Chautauqua	0	0	0	0	612	1,493	87	7.0	11,560	2,081	221	52.3	0
Chemung	0	0	0	0	0	0	0	0	0	0	0	0	0
Chenango	0	0	0	0	1,150	2,806	176	6.5	0	0	0	0	0
Clinton	0	0	0	0	0	0	0	0	0	0	0	0	0
Columbia	0	0	0	0	1,736	4,236	131	13.3	6,550	1,179	137	47.8	0
Cortland	0	0	0	0	0	0	0	0	11,538	2,077	173	66.7	0
Delaware	0	0	0	0	273	666	36	7.6	0	0	0	0	0
Dutchess	0	0	0	0	0	0	0	0	5,700	1,026	127	44.9	0
Erie	0	0	0	0	143	349	0	0	5,280	950	98	53.9	0
Essex	0	0	0	0	0	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	0	0	0	0	5,553	1,000	121	45.9	0
Fulton	0	0	0	0	0	0	0	0	0	0	0	0	0
Genesee	0	0	0	0	350	854	0	0	25,693	4,625	398	64.6	0
Greene	0	0	0	0	0	0	0	0	0	0	0	0	0
Herkimer	0	0	0	0	0	0	0	0	13,661	2,459	230	59.4	0
Jefferson	0	0	0	0	4,353	10,621	527	8.3	28,347	5,102	953	29.7	0
Lewis	0	0	0	0	0	0	0	0	8,134	1,464	177	46.0	0
Livingston	0	0	0	0	539	1,315	89	6.1	25,240	4,543	454	55.6	310
Madison	0	0	0	0	1,030	2,513	78	13.2	19,072	3,433	372	51.3	0
Monroe	0	0	0	0	0	0	0	0	7,248	1,305	163	44.5	0
Montgomery	0	0	0	0	660	1,610	0	0	3,278	590	78	42.0	0
Niagara	0	0	0	0	0	0	0	0	5,250	945	111	47.3	3,755
Oneida	0	0	0	0	392	956	85	4.6	3,876	698	99	39.2	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	D Sorghum grain	P Sorghum grain	Sorghum grain	Yield Sorghum grain	D Sorghum forage	P Sorghum forage	Sorghum forage	Yield Sorghum forage	D Barley	P Barley	Barley	Yield Barley	D Buckwheat
	bushels	Lbs	acres	bu/acre	tons	lbs	acres	tons/acre	bushels	lbs	acres	bu/acre	bushels
Onondaga	0	0	0	0	0	0	0	0	23,653	4,258	365	64.8	0
Ontario	0	0	0	0	0	0	0	0	33,647	6,056	719	46.8	0
Orange	0	0	0	0	0	0	0	0	0	0	0	0	0
Orleans	0	0	0	0	0	0	0	0	3,405	613	61	55.8	0
Oswego	0	0	0	0	0	0	0	0	0	0	0	0	0
Otsego	0	0	0	0	1,040	2,538	135	7.7	6,130	1,103	149	41.1	0
Rensselaer	0	0	0	0	0	0	0	0	0	0	0	0	0
St. Lawrence	0	0	0	0	4,736	11,556	464	10.2	0	0	0	0	0
Saratoga	0	0	0	0	0	0	0	0	0	0	0	0	0
Schenectady	0	0	0	0	0	0	0	0	0	0	0	0	0
Schoharie	0	0	0	0	540	1,318	68	7.9	0	0	0	0	0
Schuyler	0	0	0	0	0	0	0	0	15,494	2,789	269	57.6	3,920
Seneca	0	0	0	0	0	0	0	0	33,253	5,986	576	57.7	3,205
Steuben	0	0	0	0	1,110	2,708	183	6.1	36,139	6,505	671	53.9	7,535
Suffolk	0	0	0	0	0	0	0	0	0	0	0	0	0
Sullivan	0	0	0	0	0	0	0	0	0	0	0	0	0
Tioga	0	0	0	0	0	0	0	0	2,846	512	67	42.5	0
Tompkins	0	0	0	0	0	0	0	0	8,940	1,609	204	43.8	2,093
Ulster	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington	0	0	0	0	1,102	2,689	112	9.8	0	0	0	0	0
Wayne	0	0	0	0	812	1,981	114	7.1	12,225	2,201	223	54.8	0
Wyoming	0	0	0	0	0	0	0	0	20,495	3,689	348	58.9	1,291
Yates	0	0	0	0	677	1,652	69	9.8	22,310	4,016	409	54.5	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	P Buckwheat	Buckwheat	Yield Buckwheat	D Oats	P Oats	Oats	Yield Oats	D Rye	P Rye	Rye	Yield Rye	D Wheat	P Wheat
	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs
New York State	3,894	1,755	13.9	6,879,329	756,726	109,491	62.8	264,081	47,535	7,959	33.2	6,254,187	1,250,837
Albany	0	0	0	12,520	1,377	248	50.5	0	0	0	0	1,852	370
Allegany	59	37	9.9	165,046	18,155	3,090	53.4	0	0	0	0	6,595	1,319
Broome	0	0	0	16,503	1,815	335	49.3	0	0	0	0	0	0
Cattaraugus	0	0	0	159,741	17,572	2,653	60.2	0	0	0	0	9,156	1,831
Cayuga	298	144	12.9	435,196	47,872	6,529	66.7	19,873	3,577	560	35.5	429,868	85,974
Chautauqua	0	0	0	95,501	10,505	1,446	66.0	1,000	180	31	32.3	4,024	805
Chemung	0	0	0	42,419	4,666	789	53.8	0	0	0	0	0	0
Chenango	0	0	0	96,212	10,583	1,641	58.6	660	119	23	28.7	0	0
Clinton	0	0	0	45,375	4,991	654	69.4	0	0	0	0	0	0
Columbia	0	0	0	73,933	8,133	1,346	54.9	5,490	988	164	33.5	114,388	22,878
Cortland	0	0	0	57,422	6,316	1,099	52.2	0	0	0	0	13,206	2,641
Delaware	0	0	0	4,126	454	70	58.9	0	0	0	0	0	0
Dutchess	0	0	0	37,197	4,092	936	39.7	2,868	516	88	32.6	1,520	304
Erie	0	0	0	200,150	22,017	2,823	70.9	20,050	3,609	730	27.5	101,763	20,353
Essex	0	0	0	7,800	858	165	47.3	0	0	0	0	3,010	602
Franklin	0	0	0	55,011	6,051	1,005	54.7	5,933	1,068	244	24.3	0	0
Fulton	0	0	0	14,278	1,571	305	46.8	0	0	0	0	0	0
Genesee	0	0	0	196,228	21,585	2,961	66.3	14,643	2,636	384	38.1	655,192	131,038
Greene	0	0	0	0	0	0	0	0	0	0	0	0	0
Herkimer	0	0	0	119,678	13,165	1,788	66.9	0	0	0	0	0	0
Jefferson	0	0	0	204,905	22,540	3,621	56.6	0	0	0	0	20,590	4,118
Lewis	0	0	0	114,841	12,633	2,123	54.1	0	0	0	0	0	0
Livingston	50	62	5.0	337,902	37,169	4,700	71.9	14,466	2,604	519	27.9	742,576	148,515
Madison	0	0	0	290,252	31,928	4,866	59.6	9,800	1,764	217	45.2	18,516	3,703
Monroe	0	0	0	157,862	17,365	2,393	66.0	1,245	224	36	34.6	578,109	115,622
Montgomery	0	0	0	75,730	8,330	1,639	46.2	0	0	0	0	10,324	2,065
Niagara	601	186	20.2	176,873	19,456	2,891	61.2	2,070	373	66	31.4	493,967	98,793
Oneida	0	0	0	298,632	32,850	4,630	64.5	0	0	0	0	71,972	14,394

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	P Buckwheat	Buckwheat	Yield Buckwheat	D Oats	P Oats	Oats	Yield Oats	D Rye	P Rye	Rye	Yield Rye	D Wheat	P Wheat
	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs
Onondaga	0	0	0	384,458	42,290	6,192	62.1	19,273	3,469	527	36.6	157,812	31,562
Ontario	0	0	0	332,623	36,589	4,808	69.2	18,728	3,371	482	38.9	662,691	132,538
Orange	0	0	0	6,520	717	115	56.7	0	0	0	0	0	0
Orleans	0	0	0	178,151	19,597	2,667	66.8	0	0	0	0	568,512	113,702
Oswego	0	0	0	43,350	4,769	1,149	37.7	0	0	0	0	4,175	835
Otsego	0	0	0	113,881	12,527	1,921	59.3	0	0	0	0	0	0
Rensselaer	0	0	0	25,315	2,785	571	44.3	3,985	717	93	42.8	4,390	878
St. Lawrence	0	0	0	98,180	10,800	1,533	64.0	0	0	0	0	2,440	488
Saratoga	0	0	0	34,962	3,846	563	62.1	4,605	829	178	25.9	0	0
Schenectady	0	0	0	4,806	529	96	50.1	0	0	0	0	0	0
Schoharie	0	0	0	18,293	2,012	381	48.0	0	0	0	0	0	0
Schuyler	627	307	12.8	64,135	7,055	1,164	55.1	2,490	448	102	24.4	54,231	10,846
Seneca	513	265	12.1	345,451	38,000	4,714	73.3	16,520	2,974	496	33.3	541,307	108,261
Steuben	1,206	290	26.0	825,781	90,836	12,638	65.3	4,793	863	246	19.5	159,558	31,912
Suffolk	0	0	0	14,125	1,554	226	62.5	48,926	8,807	1,377	35.5	17,565	3,513
Sullivan	0	0	0	0	0	0	0	0	0	0	0	0	0
Tioga	0	0	0	70,829	7,791	1,135	62.4	852	153	43	19.8	0	0
Tompkins	335	393	5.3	191,390	21,053	2,850	67.2	5,024	904	168	29.9	118,206	23,641
Ulster	0	0	0	0	0	0	0	0	0	0	0	1,750	350
Washington	0	0	0	22,103	2,431	453	48.8	4,625	833	176	26.3	23,305	4,661
Wayne	0	0	0	163,673	18,004	2,955	55.4	14,376	2,588	495	29.0	219,385	43,877
Wyoming	207	71	18.2	321,004	35,310	4,776	67.2	4,536	816	112	40.5	209,213	41,843
Yates	0	0	0	128,966	14,186	1,838	70.2	17,250	3,105	402	42.9	233,019	46,604

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	Wheat	Yield Wheat	D Soy	P Soy	Soy	Yield Soy	D Potatoes	P Potatoes	Potatoes	Yield Potatoes	D Dry beans	P Dry beans	Dry beans
	acres	bu/acre	bushels	lbs	acres	bu/acre	cwt	lbs	acres	cwt/acre	cwt	lbs	acres
New York State	117,375	53.3	1,117,337	402,241	47,186	23.7	6,574,460	394,468	27,308	240.8	404,877	198,390	35,473
Albany	78	23.7	0	0	0	0	0	0	0	0	0	0	0
Allegany	156	42.3	63	23	11	5.7	0	0	0	0	0	0	0
Broome	0	0.0	0	0	0	0	540	32	6	90.0	0	0	0
Cattaraugus	175	52.3	0	0	0	0	17,660	1,060	126	140.2	0	0	0
Cayuga	8,061	53.3	121,905	43,886	5,160	23.6	59,100	3,546	401	147.4	22,314	10,934	1,999
Chautauqua	93	43.3	0	0	0	0	1,749	105	19	92.1	0	0	0
Chemung	0	0.0	0	0	0	0	3,680	221	21	175.2	0	0	0
Chenango	0	0.0	0	0	0	0	5,760	346	37	155.7	0	0	0
Clinton	0	0.0	0	0	0	0	31,130	1,868	144	216.2	0	0	0
Columbia	1,558	73.4	40,173	14,462	1,058	38.0	0	0	352	0.0	0	0	0
Cortland	248	53.3	0	0	0	0	0	0	0	0	0	0	0
Delaware	0	0.0	0	0	0	0	700	42	4	175.0	0	0	0
Dutchess	45	33.8	0	0	0	0	2,069	124	13	159.2	0	0	0
Erie	2,133	47.7	5,289	1,904	226	23.4	152,234	9,134	816	186.6	3,963	1,942	385
Essex	95	31.7	0	0	0	0	0	0	0	0	0	0	0
Franklin	0	0.0	0	0	0	0	289,887	17,393	1,121	258.6	0	0	0
Fulton	0	0.0	0	0	0	0	0	0	0	0	0	0	0
Genesee	12,503	52.4	23,143	8,331	1,727	13.4	140,961	8,458	512	275.3	54,063	26,491	4,370
Greene	0	0.0	0	0	0	0	0	0	0	0	0	0	0
Herkimer	0	0.0	0	0	0	0	0	0	0	0	0	0	0
Jefferson	439	46.9	33,931	12,215	1,273	26.7	0	0	0	0	0	0	0
Lewis	0	0.0	0	0	0	0	0	0	0	0	0	0	0
Livingston	13,904	53.4	41,012	14,764	1,773	23.1	290,932	17,456	1,475	197.2	95,593	46,841	7,686
Madison	376	49.2	0	0	0	0	0	0	0	0	0	0	0
Monroe	11,431	50.6	33,551	12,078	1,318	25.5	116,129	6,968	589	197.2	85,378	41,835	7,382
Montgomery	274	37.7	15,580	5,609	656	23.8	6,906	414	35	197.3	0	0	0
Niagara	9,778	50.5	100,322	36,116	3,888	25.8	26,271	1,576	188	139.7	0	0	0
Oneida	1,192	60.4	0	0	0	0	168,837	10,130	547	308.7	0	0	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	Wheat	Yield Wheat	D Soy	P Soy	Soy	Yield Soy	D Potatoes	P Potatoes	Potatoes	Yield Potatoes	D Dry beans	P Dry beans	Dry beans
	acres	bu/acre	bushels	lbs	acres	bu/acre	cwt	lbs	acres	cwt/acre	cwt	lbs	acres
Onondaga	3,139	50.3	20,961	7,546	1,138	18.4	8,982	539	35	256.6	5,125	2,511	485
Ontario	11,835	56.0	140,755	50,672	5,802	24.3	0	0	0	0	57,959	28,400	5,168
Orange	0	0.0	0	0	0	0	46,105	2,766	159	290.0	0	0	0
Orleans	10,241	55.5	166,471	59,930	7,389	22.5	114,337	6,860	748	152.9	8,706	4,266	831
Oswego	101	41.3	0	0	0	0	93,277	5,597	386	241.7	0	0	0
Otsego	0	0.0	0	0	0	0	0	0	0	0	0	0	0
Rensselaer	122	36.0	0	0	0	0	3,020	181	15	201.3	0	0	0
St. Lawrence	64	38.1	7,923	2,852	330	24.0	1,675	101	21	79.8	0	0	0
Saratoga	0	0.0	0	0	0	0	0	0	0	0	0	0	0
Schenectady	0	0.0	0	0	0	0	0	0	0	0	0	0	0
Schoharie	0	0.0	3,830	1,379	140	27.4	0	0	42	0.0	0	0	0
Schuyler	1,145	47.4	0	0	0	0	2,100	126	7	300.0	4,577	2,243	436
Seneca	9,030	0.0	253,931	91,415	10,518	24.1	0	0	0	0	10,374	5,083	1,361
Steuben	3,046	0.0	0	0	0	0	1,436,377	86,183	5,686	252.6	7,076	3,467	519
Suffolk	327	0.0	0	0	0	0	2,067,685	124,061	7,032	294.0	0	0	0
Sullivan	0	0.0	0	0	0	0	0	0	0	0	0	0	0
Tioga	0	0.0	0	0	0	0	2,339	140	11	212.6	0	0	0
Tompkins	2,298	51.4	10,040	3,614	486	20.7	11,417	685	94	121.5	4,578	2,243	427
Ulster	43	40.7	0	0	0	0	19,760	1,186	54	365.9	0	0	0
Washington	420	55.5	12,850	4,626	330	38.9	69,670	4,180	231	301.6	0	0	0
Wayne	4,737	46.3	79,217	28,518	3,591	22.1	577,305	34,638	3,295	175.2	16,820	8,242	1,980
Wyoming	3,982	52.5	0	0	0	0	742,080	44,525	2,811	264.0	14,326	7,020	1,139
Yates	4,306	54.1	6,390	2,300	372	17.2	63,786	3,827	275	231.9	14,025	6,872	1,305

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	Yield Dry beans	D Alfalfa	P Alfalfa	Alfalfa	Yield Alfalfa	D Haylage	P Haylage	Haylage	Yield Haylage	D Other hay	P Other hay	Other hay	Yield Other hay
	cwt/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
New York State	11.4	2,044,165	9,648,459	812,990	2.5	2,680,045	2,391,940	446,041	6.0	1,173,396	7,697,478	649,007	1.8
Albany	0.0	19,241	90,818	9,128	2.1	5,637	5,031	1,274	4.4	11,206	73,511	7,953	1.4
Allegany	0.0	32,905	155,312	13,748	2.4	49,257	43,962	9,223	5.3	31,218	204,790	18,953	1.6
Broome	0.0	13,980	65,986	6,061	2.3	29,762	26,563	6,050	4.9	23,180	152,061	13,355	1.7
Cattaraugus	0.0	44,391	209,526	19,222	2.3	62,350	55,647	10,354	6.0	39,286	257,716	20,324	1.9
Cayuga	11.2	84,646	399,529	30,691	2.8	75,217	67,131	10,792	7.0	15,857	104,022	7,479	2.1
Chautauqua	0.0	41,857	197,565	15,456	2.7	131,638	117,487	23,594	5.6	59,610	391,042	29,101	2.0
Chemung	0.0	14,622	69,016	6,746	2.2	9,087	8,110	2,189	4.2	8,617	56,528	5,655	1.5
Chenango	0.0	51,545	243,292	20,176	2.6	70,314	62,755	12,774	5.5	41,197	270,252	22,107	1.9
Clinton	0.0	41,267	194,780	17,818	2.3	61,646	55,019	10,035	6.1	20,216	132,617	11,783	1.7
Columbia	0.0	33,987	160,419	13,409	2.5	44,459	39,680	6,716	6.6	21,549	141,361	11,958	1.8
Cortland	0.0	36,065	170,227	14,964	2.4	76,386	68,175	13,017	5.9	24,003	157,460	10,943	2.2
Delaware	0.0	42,776	201,903	18,139	2.4	60,069	53,612	11,042	5.4	47,720	313,043	25,868	1.8
Dutchess	0.0	37,548	177,227	13,973	2.7	22,814	20,361	3,959	5.8	13,617	89,328	7,753	1.8
Erie	10.3	35,529	167,697	14,519	2.4	59,634	53,223	10,242	5.8	29,312	192,287	15,959	1.8
Essex	0.0	10,178	48,040	5,286	1.9	16,307	14,554	3,343	4.9	8,713	57,157	6,150	1.4
Franklin	0.0	34,459	162,646	13,990	2.5	51,895	46,316	8,246	6.3	40,542	265,956	21,427	1.9
Fulton	0.0	12,880	60,794	5,149	2.5	17,317	15,455	2,695	6.4	8,673	56,895	4,127	2.1
Genesee	12.4	51,098	241,183	16,815	3.0	96,360	86,001	12,614	7.6	3,538	23,209	1,820	1.9
Greene	0.0	13,897	65,594	6,480	2.1	2,307	2,059	416	5.5	7,933	52,040	5,515	1.4
Herkimer	0.0	65,324	308,329	25,673	2.5	62,951	56,184	13,486	4.7	27,295	179,055	13,562	2.0
Jefferson	0.0	80,376	379,375	35,434	2.3	111,393	99,418	22,897	4.9	68,967	452,424	42,970	1.6
Lewis	0.0	76,429	360,745	30,286	2.5	76,741	68,491	11,541	6.6	39,430	258,661	18,865	2.1
Livingston	12.4	59,406	280,396	20,184	2.9	91,781	81,915	11,746	7.8	12,046	79,022	6,672	1.8
Madison	0.0	91,457	431,677	31,804	2.9	85,337	76,163	14,042	6.1	18,005	118,113	9,574	1.9
Monroe	11.6	22,275	105,138	9,210	2.4	16,709	14,913	2,419	6.9	3,819	25,053	1,838	2.1
Montgomery	0.0	62,049	292,871	26,453	2.3	71,786	64,069	14,169	5.1	26,413	173,269	14,997	1.8
Niagara	0.0	31,794	150,068	12,899	2.5	25,034	22,343	3,681	6.8	11,802	77,421	6,359	1.9
Oneida	0.0	96,910	457,415	35,528	2.7	69,755	62,256	13,388	5.2	33,245	218,087	17,465	1.9

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	Yield Dr beans	D Alfalfa	P Alfalfa	Alfalfa	Yield Alfalfa	D Haylage	P Haylage	Haylage	Yield Haylage	D Other hay	P Other hay	Other hay	Yield Other hay
	cwt/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
Onondaga	10.6	69,835	329,621	24,857	2.8	68,012	60,701	9,558	7.1	9,085	59,598	4,201	2.2
Ontario	11.2	45,978	217,016	17,670	2.6	53,180	47,463	7,412	7.2	10,621	69,674	5,075	2.1
Orange	0.0	22,759	107,422	8,421	2.7	36,365	32,456	5,119	7.1	19,095	125,263	10,201	1.9
Orleans	10.5	19,510	92,087	7,065	2.8	13,796	12,313	2,017	6.8	4,649	30,497	2,505	1.9
Oswego	0.0	20,711	97,756	8,702	2.4	20,478	18,277	3,987	5.1	19,216	126,057	9,920	1.9
Otsego	0.0	65,965	311,355	28,084	2.3	81,980	73,167	14,889	5.5	37,953	248,972	19,245	2.0
Rensselaer	0.0	27,288	128,799	11,921	2.3	37,258	33,253	6,514	5.7	10,844	71,137	6,645	1.6
St. Lawrence	0.0	86,689	409,172	35,575	2.4	170,002	151,727	26,034	6.5	117,510	770,866	64,883	1.8
Saratoga	0.0	20,997	99,106	8,877	2.4	24,817	22,149	3,234	7.7	13,667	89,656	7,797	1.8
Schenectady	0.0	3,778	17,832	2,196	1.7	1,688	1,507	0	0	4,197	27,532	2,494	1.7
Schoharie	0.0	43,174	203,781	18,668	2.3	43,614	38,925	8,074	5.4	22,597	148,236	14,302	1.6
Schuyler	10.5	17,733	83,700	8,323	2.1	9,103	8,124	1,706	5.3	8,962	58,791	5,242	1.7
Seneca	7.6	24,716	116,660	9,544	2.6	24,845	22,174	4,014	6.2	8,934	58,607	4,576	2.0
Steuben	13.6	83,333	393,332	36,436	2.3	96,042	85,717	18,543	5.2	62,351	409,023	38,121	1.6
Suffolk	0.0	680	3,210	264	2.6	0	0	0	0	542	3,556	235	2.3
Sullivan	0.0	9,000	42,480	3,497	2.6	12,077	10,779	2,106	5.7	17,820	116,899	10,642	1.7
Tioga	0.0	26,225	123,782	11,583	2.3	47,655	42,532	9,858	4.8	20,494	134,441	12,567	1.6
Tompkins	10.7	29,544	139,448	9,869	3.0	37,769	33,709	5,810	6.5	12,111	79,448	5,972	2.0
Ulster	0.0	6,835	32,261	3,196	2.1	7,574	6,760	1,287	5.9	9,190	60,286	6,355	1.4
Washington	0.0	59,770	282,114	22,741	2.6	118,210	105,502	19,821	6.0	32,805	215,201	17,887	1.8
Wayne	8.5	25,478	120,256	10,369	2.5	20,396	18,203	3,200	6.4	6,042	39,636	3,129	1.9
Wyoming	12.6	66,279	312,837	24,277	2.7	180,307	160,924	23,162	7.8	17,936	117,660	9,893	1.8
Yates	10.7	28,130	132,774	11,005	2.6	20,934	18,684	3,752	5.6	8,338	54,697	5,496	1.5

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	D Small grain hay	P Small grain hay	Small grain hay	Yield Small grain hay	D Wild hay	P Wild hay	Wild hay	Yield Wild hay
	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
New York State	48,180	215,846	27,301	1.8	105,668	693,182	74,123	1.4
Albany	733	3,284	289	2.5	1,398	9,171	1,293	1.1
Allegany	1,040	4,659	807	1.3	2,461	16,144	2,175	1.1
Broome	607	2,719	301	2.0	3,115	20,434	2,128	1.5
Cattaraugus	1,300	5,824	747	1.7	1,847	12,116	1,704	1.1
Cayuga	2,340	10,483	1,285	1.8	328	2,152	402	0.8
Chautauqua	1,451	6,500	629	2.3	5,153	33,804	3,348	1.5
Chemung	507	2,271	357	1.4	559	3,667	534	1.0
Chenango	688	3,082	373	1.8	4,390	28,798	3,398	1.3
Clinton	563	2,522	308	1.8	2,124	13,933	1,864	1.1
Columbia	601	2,692	290	2.1	2,470	16,203	1,338	1.8
Cortland	568	2,545	293	1.9	1,848	12,123	1,267	1.5
Delaware	112	502	56	2.0	6,455	42,345	4,683	1.4
Dutchess	2,019	9,045	981	2.1	1,320	8,659	910	1.5
Erie	1,092	4,892	608	1.8	1,554	10,194	933	1.7
Essex	0	0	0	0	507	3,326	597	0.8
Franklin	1,483	6,644	701	2.1	2,734	17,935	1,942	1.4
Fulton	334	1,496	167	2.0	861	5,648	482	1.8
Genesee	1,710	7,661	915	1.9	220	1,443	164	1.3
Greene	376	1,684	163	2.3	3,501	22,967	1,876	1.9
Herkimer	932	4,175	606	1.5	3,660	24,010	1,716	2.1
Jefferson	1,847	8,275	1,079	1.7	4,095	26,863	3,386	1.2
Lewis	1,837	8,230	1,112	1.7	7,072	46,392	3,388	2.1
Livingston	1,791	8,024	1,055	1.7	757	4,966	504	1.5
Madison	1,077	4,825	625	1.7	1,301	8,535	853	1.5
Monroe	246	1,102	137	1.8	182	1,194	179	1.0
Montgomery	1,269	5,685	831	1.5	1,428	9,368	968	1.5
Niagara	747	3,347	519	1.4	809	5,307	351	2.3
Oneida	1,418	6,353	794	1.8	3,834	25,151	2,345	1.6

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1992

	D Small grain hay	P Small grain hay	Small grain hay	Yield Small grain hay	D Wild hay	P Wild hay	Wild hay	Yield Wild hay
	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
Onondaga	1,111	4,977	905	1.2	528	3,464	352	1.5
Ontario	1,318	5,905	901	1.5	584	3,831	421	1.4
Orange	199	892	172	1.2	4,170	27,355	3,167	1.3
Orleans	0	0	82	0.0	0	0	136	0.0
Oswego	1,065	4,771	566	1.9	1,826	11,979	1,403	1.3
Otsego	736	3,297	473	1.6	3,249	21,313	2,901	1.1
Rensselaer	629	2,818	346	1.8	2,008	13,172	1,882	1.1
St. Lawrence	2,770	12,410	1,391	2.0	6,675	43,788	4,589	1.5
Saratoga	708	3,172	353	2.0	1,875	12,300	855	2.2
Schenectady	0	0	0	0	0	0	772	0.0
Schoharie	1,104	4,946	563	2.0	4,969	32,597	3,272	1.5
Schuyler	359	1,608	244	1.5	685	4,494	537	1.3
Seneca	956	4,283	936	1.0	286	1,876	241	1.2
Steuben	2,525	11,312	1,383	1.8	4,940	32,406	3,861	1.3
Suffolk	246	1,102	178	1.4	0	0	0	0
Sullivan	0	0	0	0	0	0	0	0
Tioga	936	4,193	478	2.0	1,469	9,637	1,286	1.1
Tompkins	899	4,028	552	1.6	730	4,789	576	1.3
Ulster	103	461	0	0	1,407	9,230	0	0
Washington	1,332	5,967	569	2.3	2,698	17,699	1,951	1.4
Wayne	449	2,012	247	1.8	217	1,424	114	1.9
Wyoming	1,513	6,778	566	2.7	814	5,340	523	1.6
Yates	534	2,392	368	1.5	377	2,473	363	1.0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	Total P Balance	P per acre harvested cropland	Total P Manure	Total P Fertilizer	Total P Crops	Total P Cattle	Total P Hogs	Total P Poultry	Total P Sheep	Total P Horses	Total Animal Equivalent Units
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	(1000 lbs/AU)
New York State	49,854,420	12.78	49,840,864	48,805,833	48,792,276	48,991,510	359,544	361,479	88,720	39,611	1,678,166
Albany	-25,220	-0.88	189,352	86,006	300,578	185,761	1,517	48	1,453	573	8,137
Allegany	406,101	5.84	880,101	363,176	837,176	870,980	5,261	12	3,180	668	30,612
Broome	165,082	3.86	664,227	35,566	534,710	652,761	1,940	7,859	670	997	23,604
Cattaraugus	706,225	7.93	1,554,700	403,215	1,251,691	1,542,934	6,731	2,236	1,590	1,210	52,091
Cayuga	2,759,269	18.09	1,448,708	3,466,582	2,156,021	1,424,993	19,701	70	3,031	913	49,443
Chautauqua	1,266,621	10.36	1,710,741	990,698	1,434,817	1,668,139	12,064	26,926	2,353	1,259	57,845
Chemung	123,031	5.17	291,447	155,460	323,876	282,499	4,273	3,548	733	395	10,254
Chenango	588,004	6.92	1,593,594	160,368	1,165,958	1,587,928	1,546	17	3,220	882	52,513
Clinton	1,019,504	15.35	1,232,361	760,287	973,145	1,229,664	1,731	37	619	311	39,223
Columbia	417,014	6.43	771,005	419,602	773,594	765,020	3,149	10	1,707	1,119	27,727
Cortland	697,237	11.30	1,253,317	346,631	902,712	1,249,372	0	975	2,608	362	40,415
Delaware	641,822	8.81	1,524,274	152,769	1,035,221	1,513,161	1,173	7,584	1,513	843	49,510
Dutchess	335,648	7.19	499,400	386,494	550,247	492,481	1,883	747	2,688	1,601	20,519
Erie	1,101,452	12.05	1,082,998	1,146,617	1,128,163	1,067,184	12,177	408	1,748	1,483	37,175
Essex	63,304	3.12	220,207	78,058	234,961	217,540	1,460	485	265	457	7,899
Franklin	672,877	10.16	1,274,929	308,963	911,016	1,272,669	772	52	1,222	214	39,981
Fulton	115,302	6.76	260,530	69,782	215,011	259,862	226	7	78	357	8,902
Genesee	3,291,736	28.62	1,125,104	3,555,023	1,388,391	1,088,468	33,567	14	2,513	542	37,350
Greene	50,445	2.94	179,934	52,302	181,791	178,156	658	0	708	411	6,987
Herkimer	753,113	9.44	1,445,885	334,614	1,027,386	1,439,212	2,814	2,930	499	430	45,844
Jefferson	1,139,360	7.09	2,349,110	713,424	1,923,174	2,342,610	4,763	440	773	523	75,075
Lewis	1,348,453	15.17	1,802,343	773,114	1,227,005	1,799,004	2,194	566	402	177	56,039
Livingston	1,290,638	10.33	1,052,688	1,875,681	1,637,731	1,027,844	17,362	84	6,575	823	36,379
Madison	1,169,574	10.72	1,956,287	751,133	1,537,846	1,951,405	1,457	597	2,189	638	62,818
Monroe	565,019	7.19	350,378	1,030,239	815,598	332,267	6,280	8,749	1,622	1,460	13,865
Montgomery	920,320	10.25	1,230,625	832,688	1,142,994	1,223,678	2,296	409	3,833	408	39,430
Niagara	1,391,017	16.05	521,362	1,876,077	1,006,422	495,393	23,800	328	1,101	740	19,613
Oneida	1,388,420	10.58	2,032,908	1,102,792	1,747,280	2,023,129	3,290	4,144	988	1,357	66,420

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	Total P Balance	P per acre harvested cropland	Total P Manure	Total P Fertilizer	Total P Crops	Total P Cattle	Total P Hogs	Total P Poultry	Total P Sheep	Total P Horses	Total Animal Equivalent Units
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	(1000 lbs/AU)
Onondaga	1,772,923	19.88	1,263,498	1,724,784	1,215,359	1,127,568	2,622	130,804	1,563	941	45,423
Ontario	2,862,729	24.37	730,602	3,570,416	1,438,289	703,006	21,797	16	4,831	953	26,966
Orange	788,320	13.90	712,416	678,705	602,802	706,440	2,274	62	1,389	2,252	26,161
Orleans	1,534,666	17.70	347,842	2,119,321	932,497	325,697	20,875	117	631	522	13,013
Oswego	474,998	9.04	586,569	524,137	635,708	578,762	4,317	1,964	917	609	20,586
Otsego	886,202	8.67	1,740,008	490,152	1,343,958	1,731,405	4,394	20	3,303	886	57,075
Rensselaer	810,367	17.77	581,484	783,934	555,051	572,703	2,735	4,082	1,471	492	20,129
St. Lawrence	1,461,849	8.41	2,787,992	948,519	2,274,662	2,770,531	9,921	4,328	2,068	1,144	90,530
Saratoga	136,339	3.75	431,395	185,842	480,898	428,172	1,290	27	591	1,315	16,350
Schenectady	-2,481	-0.31	47,841	16,475	66,797	47,646	0	0	26	169	2,109
Schoharie	287,211	4.76	820,813	215,985	749,586	814,487	3,763	1,273	785	505	27,507
Schuyler	15,238	0.52	257,857	74,470	317,089	256,554	0	56	903	343	9,501
Seneca	81,550	1.08	361,871	679,498	959,818	331,557	28,727	0	1,377	209	13,089
Steuben	1,993,070	11.56	1,650,503	2,290,640	1,948,074	1,633,854	11,778	32	3,754	1,085	57,316
Suffolk	1,720,628	59.60	30,083	1,732,479	41,934	17,253	3,261	8,574	340	655	1,835
Sullivan	219,964	10.10	348,585	182,688	311,309	335,859	503	11,015	670	538	12,676
Tioga	659,915	12.74	833,625	455,878	629,588	782,397	4,622	44,246	1,817	542	26,982
Tompkins	460,690	8.62	603,616	570,622	713,548	596,784	3,694	19	2,319	800	21,101
Ulster	69,424	1.98	218,442	108,523	257,541	163,170	10,846	41,829	1,456	1,141	9,317
Washington	1,094,920	10.01	1,880,367	739,070	1,524,516	1,875,621	2,631	8	1,477	630	60,876
Wayne	1,580,327	15.44	600,104	1,941,168	960,944	533,639	22,026	42,288	1,312	839	20,630
Wyoming	2,699,228	22.00	2,087,008	2,408,098	1,795,878	2,076,739	8,342	26	1,495	407	66,647
Yates	192,883	3.30	393,800	434,516	635,433	373,515	14,700	1,228	4,082	275	13,861

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	D Milking cows	Milking cows	P Milking cows	D Beef cattle	Beef cattle	P Beef cattle	D Other cattle	Other cattle	P Other cattle	D Breeding hogs	Breeding hogs	P Breeding hogs	D Other hogs
	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number
New York State	814,445	1,118,233	38,407,597	71,487	71,487	177,195	609,721	396,319	10,406,718	13,744	5,855	97,720	76,541
Albany	2,766	3,798	130,439	1,317	1,317	3,264	3,050	1,983	52,057	46	20	327	348
Allegany	14,314	19,653	675,020	2,115	2,115	5,242	11,174	7,263	190,718	740	315	5,261	0
Broome	10,796	14,823	509,118	1,790	1,790	4,437	8,156	5,301	139,207	115	49	818	328
Cattaraugus	25,879	35,532	1,220,402	2,182	2,182	5,409	18,580	12,077	317,123	390	166	2,773	1,157
Cayuga	23,082	31,692	1,088,501	2,746	2,746	6,807	19,316	12,555	329,685	668	285	4,749	4,371
Chautauqua	27,091	37,196	1,277,557	3,263	3,263	8,088	22,410	14,567	382,494	558	238	3,967	2,367
Chemung	4,640	6,371	218,813	663	663	1,643	3,635	2,363	62,042	142	60	1,010	954
Chenango	27,074	37,173	1,276,756	2,020	2,020	5,007	17,938	11,660	306,166	101	43	718	242
Clinton	20,868	28,652	984,093	694	694	1,720	14,287	9,287	243,851	76	32	540	348
Columbia	12,299	16,887	579,996	2,041	2,041	5,059	10,544	6,854	179,965	134	57	953	642
Cortland	20,598	28,281	971,360	857	857	2,124	16,164	10,507	275,887	0	0	0	0
Delaware	26,023	35,730	1,227,193	1,540	1,540	3,817	16,531	10,745	282,151	62	26	441	214
Dutchess	7,732	10,616	364,626	2,568	2,568	6,365	7,118	4,627	121,490	70	30	498	405
Erie	18,159	24,932	856,342	1,467	1,467	3,636	12,140	7,891	207,206	416	177	2,958	2,695
Essex	3,455	4,744	162,931	334	334	828	3,151	2,048	53,781	87	37	619	246
Franklin	21,736	29,844	1,025,026	270	270	669	14,470	9,406	246,974	58	25	412	105
Fulton	4,311	5,919	203,298	310	310	768	3,269	2,125	55,795	14	6	100	37
Genesee	17,724	24,335	835,828	1,053	1,053	2,610	14,649	9,522	250,029	1,159	494	8,240	7,404
Greene	2,817	3,868	132,844	763	763	1,891	2,544	1,654	43,421	42	18	299	105
Herkimer	24,958	34,267	1,176,969	837	837	2,075	15,243	9,908	260,168	135	58	960	542
Jefferson	40,035	54,968	1,887,971	1,914	1,914	4,744	26,359	17,133	449,895	222	95	1,578	931
Lewis	31,402	43,115	1,480,856	448	448	1,110	18,575	12,074	317,038	119	51	846	394
Livingston	16,337	22,431	770,420	1,785	1,785	4,424	14,823	9,635	252,999	633	270	4,501	3,760
Madison	32,878	45,141	1,550,461	1,336	1,336	3,312	23,297	15,143	397,633	24	10	171	376
Monroe	5,106	7,011	240,789	748	748	1,854	5,251	3,413	89,624	112	48	796	1,603
Montgomery	20,952	28,767	988,054	723	723	1,792	13,700	8,905	233,832	68	29	483	530
Niagara	7,602	10,438	358,495	1,940	1,940	4,809	7,739	5,030	132,089	796	339	5,660	5,303
Oneida	34,296	47,088	1,617,331	1,600	1,600	3,966	23,543	15,303	401,832	215	92	1,529	515

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	D Milking cows	Milking cows	P Milking cows	D Beef cattle	Beef cattle	P Beef cattle	D Other cattle	Other cattle	P Other cattle	D Breeding hogs	Breeding hogs	P Breeding hogs	D Other hogs
	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number
Onondaga	18,588	25,521	876,573	1,333	1,333	3,304	14,512	9,433	247,691	108	46	768	542
Ontario	10,937	15,017	515,767	2,301	2,301	5,703	10,636	6,913	181,535	652	278	4,636	5,017
Orange	12,145	16,675	572,734	914	914	2,266	7,701	5,006	131,441	123	52	875	409
Orleans	4,805	6,597	226,594	1,056	1,056	2,618	5,653	3,674	96,485	543	231	3,861	4,974
Oswego	9,443	12,965	445,313	1,478	1,478	3,664	7,604	4,943	129,785	255	109	1,813	732
Otsego	29,264	40,179	1,380,032	1,912	1,912	4,739	20,309	13,201	346,634	134	57	953	1,006
Rensselaer	9,414	12,925	443,945	1,417	1,417	3,512	7,338	4,770	125,245	147	63	1,045	494
St. Lawrence	45,876	62,988	2,163,420	2,273	2,273	5,634	35,240	22,906	601,476	526	224	3,740	1,807
Saratoga	6,920	9,501	326,333	1,003	1,003	2,486	5,821	3,784	99,353	66	28	469	240
Schenectady	692	950	32,633	369	369	915	826	537	14,098	0	0	0	0
Schoharie	13,474	18,500	635,407	1,330	1,330	3,297	10,299	6,694	175,783	102	43	725	888
Schuyler	4,078	5,599	192,310	957	957	2,372	3,625	2,356	61,872	0	0	0	0
Seneca	5,170	7,098	243,807	1,117	1,117	2,769	4,979	3,236	84,982	956	407	6,797	6,411
Steuben	26,414	36,266	1,245,631	4,253	4,253	10,542	22,128	14,383	377,681	296	126	2,105	2,828
Suffolk	330	453	15,562	97	97	240	85	55	1,451	79	34	562	789
Sullivan	5,637	7,740	265,830	819	819	2,030	3,984	2,590	67,999	27	12	192	91
Tioga	13,027	17,886	614,327	1,302	1,302	3,227	9,658	6,278	164,843	195	83	1,386	946
Tompkins	9,698	13,315	457,338	1,026	1,026	2,543	8,021	5,214	136,902	139	59	988	791
Ulster	2,360	3,240	111,293	1,642	1,642	4,070	2,801	1,821	47,807	417	178	2,965	2,304
Washington	31,605	43,394	1,490,429	1,798	1,798	4,457	22,307	14,500	380,736	155	66	1,102	447
Wayne	8,411	11,548	396,646	1,338	1,338	3,317	7,832	5,091	133,677	649	276	4,614	5,090
Wyoming	34,918	47,942	1,646,663	1,355	1,355	3,359	25,001	16,251	426,717	364	155	2,588	1,682
Yates	5,953	8,173	280,732	827	827	2,050	5,316	3,455	90,733	589	251	4,188	3,073

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	Other hogs	P Other hogs	D Breeding turkeys	Breeding turkeys	P Breeding turkeys	D Slaughter turkeys	Slaughter turkeys	P Slaughter turkeys	D Layers	Layers	P Layers	D Broilers	Broilers
	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU
New York State	9,568	261,824	442	4	238	391,641	7,833	136,761	435,487	1,306	166,106	361,733	723
Albany	44	1,190	0	0	0	0	0	0	0	0	0	211	0
Allegany	0	0	9	0	5	0	0	0	0	0	0	221	0
Broome	41	1,122	0	0	0	0	0	0	20,101	60	7,667	169	0
Cattaraugus	145	3,958	15	0	8	2,150	43	751	3,664	11	1,398	1,188	2
Cayuga	546	14,952	0	0	0	145	3	51	0	0	0	349	1
Chautauqua	296	8,097	8	0	4	203	4	71	70,223	211	26,785	0	0
Chemung	119	3,263	0	0	0	0	0	0	9,270	28	3,536	61	0
Chenango	30	828	15	0	8	0	0	0	0	0	0	254	1
Clinton	44	1,190	0	0	0	0	0	0	0	0	0	237	0
Columbia	80	2,196	0	0	0	28	1	10	0	0	0	0	0
Cortland	0	0	18	0	10	0	0	0	2,182	7	832	161	0
Delaware	27	732	20	0	11	37	1	13	19,755	59	7,535	348	1
Dutchess	51	1,385	0	0	0	726	15	254	0	0	0	0	0
Erie	337	9,219	152	2	82	0	0	0	0	0	0	9,146	18
Essex	31	841	0	0	0	0	0	0	1,070	3	408	555	1
Franklin	13	359	0	0	0	0	0	0	0	0	0	160	0
Fulton	5	127	0	0	0	0	0	0	0	0	0	219	0
Genesee	926	25,327	0	0	0	0	0	0	0	0	0	420	1
Greene	13	359	0	0	0	0	0	0	0	0	0	0	0
Herkimer	68	1,854	0	0	0	81	2	28	7,440	22	2,838	451	1
Jefferson	116	3,185	8	0	4	0	0	0	0	0	0	549	1
Lewis	49	1,348	0	0	0	0	0	0	1,290	4	492	430	1
Livingston	470	12,862	25	0	13	32	1	11	0	0	0	300	1
Madison	47	1,286	0	0	0	0	0	0	1,474	4	562	174	0
Monroe	200	5,483	0	0	0	4,091	82	1,429	19,104	57	7,287	158	0
Montgomery	66	1,813	0	0	0	0	0	0	997	3	380	58	0
Niagara	663	18,140	12	0	6	292	6	102	0	0	0	1,452	3
Oneida	64	1,762	0	0	0	8,198	164	2,863	3,073	9	1,172	144	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	Other hogs	P Other hogs	D Breeding turkeys	Breeding turkeys	P Breeding turkeys	D Slaughter turkeys	Slaughter turkeys	P Slaughter turkeys	D Layers	Layers	P Layers	D Broilers	Broilers
	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU
Onondaga	68	1,854	0	0	0	374,551	7,491	130,793	0	0	0	332	1
Ontario	627	17,162	11	0	6	0	0	0	0	0	0	286	1
Orange	51	1,399	0	0	0	44	1	15	0	0	0	0	0
Orleans	622	17,015	18	0	10	99	2	35	0	0	0	178	0
Oswego	92	2,504	24	0	13	65	1	23	4,303	13	1,641	469	1
Otsego	126	3,441	7	0	4	38	1	13	0	0	0	0	0
Rensselaer	62	1,690	0	0	0	95	2	33	10,501	32	4,005	748	1
St. Lawrence	226	6,181	17	0	9	155	3	54	10,705	32	4,083	552	1
Saratoga	30	821	0	0	0	69	1	24	0	0	0	75	0
Schenectady	0	0	0	0	0	0	0	0	0	0	0	0	0
Schoharie	111	3,038	27	0	15	60	1	21	3,123	9	1,191	248	0
Schuyler	0	0	17	0	9	35	1	12	0	0	0	181	0
Seneca	801	21,930	0	0	0	0	0	0	0	0	0	0	0
Steuben	354	9,674	12	0	6	0	0	0	0	0	0	323	1
Suffolk	99	2,699	0	0	0	0	0	0	19,160	57	7,308	15,025	30
Sullivan	11	311	8	0	4	0	0	0	0	0	0	324,321	649
Tioga	118	3,236	0	0	0	353	7	123	115,262	346	43,964	136	0
Tompkins	99	2,706	0	0	0	0	0	0	0	0	0	553	1
Ulster	288	7,881	5	0	3	72	1	25	109,498	328	41,765	0	0
Washington	56	1,529	0	0	0	22	0	8	0	0	0	0	0
Wayne	636	17,411	5	0	3	0	0	0	0	0	0	221	0
Wyoming	210	5,754	0	0	0	0	0	0	0	0	0	226	0
Yates	384	10,512	9	0	5	0	0	0	3,165	9	1,207	194	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	P Broilers	D Hens and pullets	Hens and pullets	P Hens and pullets	D Chickens and pullets	Chickens and pullets	P Chickens and pullets	D Sheep	Sheep	P Sheep	D Horse	Horse	P Horse
	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs
New York State	12,281	135,143	405	44,935	6,415	14	1,158	76,397	7,640	88,720	53,435	58,779	39,611
Albany	7	122	0	41	0	0	0	1,251	125	1,453	773	850	573
Allegany	8	0	0	0	0	0	0	2,738	274	3,180	901	991	668
Broome	6	560	2	186	0	0	0	577	58	670	1,345	1,480	997
Cattaraugus	40	119	0	40	0	0	0	1,369	137	1,590	1,632	1,795	1,210
Cayuga	12	0	0	0	40	0	7	2,610	261	3,031	1,231	1,354	913
Chautauqua	0	199	1	66	0	0	0	2,026	203	2,353	1,698	1,868	1,259
Chemung	2	29	0	10	0	0	0	631	63	733	533	586	395
Chenango	9	0	0	0	0	0	0	2,773	277	3,220	1,190	1,309	882
Clinton	8	86	0	29	0	0	0	533	53	619	419	461	311
Columbia	0	0	0	0	0	0	0	1,470	147	1,707	1,510	1,661	1,119
Cortland	5	383	1	127	0	0	0	2,246	225	2,608	489	538	362
Delaware	12	40	0	13	0	0	0	1,303	130	1,513	1,137	1,251	843
Dutchess	0	0	0	0	2,732	6	493	2,315	232	2,688	2,160	2,376	1,601
Erie	311	0	0	0	84	0	15	1,505	151	1,748	2,000	2,200	1,483
Essex	19	175	1	58	0	0	0	228	23	265	616	678	457
Franklin	5	140	0	47	0	0	0	1,052	105	1,222	289	318	214
Fulton	7	0	0	0	0	0	0	67	7	78	482	530	357
Genesee	14	0	0	0	0	0	0	2,164	216	2,513	731	804	542
Greene	0	0	0	0	0	0	0	610	61	708	555	611	411
Herkimer	15	146	0	49	0	0	0	430	43	499	580	638	430
Jefferson	19	1,236	4	411	31	0	6	666	67	773	706	777	523
Lewis	15	179	1	60	0	0	0	346	35	402	239	263	177
Livingston	10	148	0	49	0	0	0	5,662	566	6,575	1,110	1,221	823
Madison	6	67	0	22	39	0	7	1,885	189	2,189	861	947	638
Monroe	5	86	0	29	0	0	0	1,397	140	1,622	1,969	2,166	1,460
Montgomery	2	80	0	27	0	0	0	3,301	330	3,833	551	606	408
Niagara	49	513	2	171	0	0	0	948	95	1,101	998	1,098	740
Oneida	5	315	1	105	0	0	0	851	85	988	1,830	2,013	1,357

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	P Broilers	D Hens and pullets	Hens and pullets	P Hens and pullets	D Chickens and pullets	Chickens and pullets	P Chickens and pullets	D Sheep	Sheep	P Sheep	D Horse	Horse	P Horse
	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs	number	AU	lbs
Onondaga	11	0	0	0	0	0	0	1,346	135	1,563	1,269	1,396	941
Ontario	10	0	0	0	0	0	0	4,160	416	4,831	1,285	1,414	953
Orange	0	0	0	0	256	1	46	1,196	120	1,389	3,038	3,342	2,252
Orleans	6	201	1	67	0	0	0	543	54	631	704	774	522
Oswego	16	767	2	255	91	0	16	790	79	917	821	903	609
Otsego	0	0	0	0	18	0	3	2,844	284	3,303	1,195	1,315	886
Rensselaer	25	55	0	18	0	0	0	1,267	127	1,471	664	730	492
St. Lawrence	19	490	1	163	0	0	0	1,781	178	2,068	1,543	1,697	1,144
Saratoga	3	0	0	0	0	0	0	509	51	591	1,774	1,951	1,315
Schenectady	0	0	0	0	0	0	0	22	2	26	228	251	169
Schoharie	8	115	0	38	0	0	0	676	68	785	681	749	505
Schuyler	6	0	0	0	160	0	29	778	78	903	463	509	343
Seneca	0	0	0	0	0	0	0	1,186	119	1,377	282	310	209
Steuben	11	0	0	0	80	0	14	3,233	323	3,754	1,463	1,609	1,085
Suffolk	510	1,087	3	361	2,184	5	394	293	29	340	884	972	655
Sullivan	11,011	0	0	0	0	0	0	577	58	670	726	799	538
Tioga	5	465	1	155	0	0	0	1,565	157	1,817	731	804	542
Tompkins	19	0	0	0	0	0	0	1,997	200	2,319	1,079	1,187	800
Ulster	0	107	0	36	0	0	0	1,254	125	1,456	1,539	1,693	1,141
Washington	0	0	0	0	0	0	0	1,272	127	1,477	850	935	630
Wayne	8	127,150	381	42,277	0	0	0	1,130	113	1,312	1,132	1,245	839
Wyoming	8	55	0	18	0	0	0	1,287	129	1,495	549	604	407
Yates	7	28	0	9	0	0	0	3,515	352	4,082	371	408	275

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	D Fertilizer	P Fertilizer	Fertilized cropland	Manured cropland	Harvested cropland	D Corn grain	P Corn grain	Corn grain	Yield Corn grain	D Corn silage	P Corn silage	Corn silage	Yield Corn silage
	tons P ₂ O ₅	lbs P	acres	acres	acres	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre
New York State	55,842	48,805,833	2,343,952		3,899,819	65,911,889	9,886,783	598,815	110.1	7,617,216	12,385,593	524,940	14.5
Albany		86,006	12,693		28,617	209,549	31,432	2,548	82.2	33,710	54,812	2,873	11.7
Allegany		363,176	25,387		69,480	478,208	71,731	4,713	101.5	121,980	198,339	9,163	13.3
Broome		35,566	19,505		42,717	280,909	42,136	2,359	119.1	92,934	151,111	6,418	14.5
Cattaraugus		403,215	42,886		89,084	733,943	110,091	6,233	117.8	224,064	364,328	15,923	14.1
Cayuga		3,466,582	116,094		152,567	6,125,148	918,772	54,210	113.0	262,374	426,620	16,668	15.7
Chautauqua		990,698	70,565		122,265	731,551	109,733	6,775	108.0	248,422	403,934	16,880	14.7
Chemung		155,460	11,913		23,795	316,428	47,464	3,175	99.7	37,817	61,490	2,811	13.5
Chenango		160,368	43,001		85,021	796,185	119,428	7,243	109.9	224,299	364,710	15,211	14.7
Clinton		760,287	42,407		66,398	647,067	97,060	5,330	121.4	214,174	348,247	13,975	15.3
Columbia		419,602	42,664		64,820	1,200,895	180,134	11,255	106.7	121,191	197,057	8,728	13.9
Cortland		346,631	40,305		61,694	715,110	107,267	6,599	108.4	212,683	345,823	13,855	15.4
Delaware		152,769	35,073		72,883	163,665	24,550	1,305	125.4	171,277	278,496	11,494	14.9
Dutchess		386,494	30,014		46,676	593,254	88,988	6,095	97.3	95,215	154,820	6,900	13.8
Erie		1,146,617	59,368		91,416	1,433,570	215,036	13,344	107.4	187,780	305,330	11,671	16.1
Essex		78,058	8,039		20,283	80,731	12,110	763	105.8	39,898	64,874	3,031	13.2
Franklin		308,963	39,175		66,238	205,874	30,881	1,873	109.9	163,708	266,189	11,191	14.6
Fulton		69,782	9,229		17,060	128,768	19,315	1,278	100.8	41,211	67,009	3,035	13.6
Genesee		3,555,023	99,410		115,017	3,202,222	480,333	27,791	115.2	187,400	304,712	11,824	15.8
Greene		52,302	6,548		17,139	88,636	13,295	969	91.5	12,445	20,236	1,211	10.3
Herkimer		334,614	37,593		79,805	742,783	111,417	7,545	98.4	189,011	307,332	13,247	14.3
Jefferson		713,424	58,310		160,742	1,214,791	182,219	11,549	105.2	325,177	528,738	23,237	14.0
Lewis		773,114	52,131		88,903	371,249	55,687	3,262	113.8	205,929	334,841	13,257	15.5
Livingston		1,875,681	96,067		124,930	4,219,733	632,960	35,778	117.9	166,813	271,238	10,681	15.6
Madison		751,133	62,339		109,116	1,751,018	262,653	17,285	101.3	325,748	529,666	24,230	13.4
Monroe		1,030,239	68,988		78,546	2,199,966	329,995	20,282	108.5	56,128	91,264	4,021	14.0
Montgomery		832,688	45,636		89,780	1,258,290	188,744	12,086	104.1	185,894	302,264	13,621	13.6
Niagara		1,876,077	62,143		86,671	2,844,631	426,695	25,193	112.9	68,888	112,012	4,584	15.0
Oneida		1,102,792	76,181		131,237	2,212,471	331,871	19,884	111.3	257,535	418,752	18,195	14.2

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	D Fertilizer	P Fertilizer	Fertilized cropland	Manured cropland	Harvested cropland	D Corn grain	P Corn grain	Corn grain	Yield Corn grain	D Corn silage	P Corn silage	Corn silage	Yield Corn silage
	tons P ₂ O ₅	lbs P	acres	acres	acres	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre
Onondaga	1,724,784	65,544			89,163	2,519,153	377,873	24,036	104.8	186,533	303,303	12,346	15.1
Ontario	3,570,416	96,073			117,473	4,581,638	687,246	40,891	112.0	105,897	172,189	6,898	15.4
Orange	678,705	39,073			56,706	553,870	83,081	5,367	103.2	130,538	212,255	9,620	13.6
Orleans	2,119,321	84,617			86,726	3,180,667	477,100	26,537	119.9	64,236	104,448	3,868	16.6
Oswego	524,137	34,027			52,559	843,246	126,487	8,032	105.0	104,300	169,592	7,560	13.8
Otsego	490,152	45,074			102,248	835,284	125,293	7,186	116.2	251,016	408,152	17,260	14.5
Rensselaer	783,934	24,330			45,595	806,060	120,909	7,697	104.7	88,679	144,192	6,542	13.6
St. Lawrence	948,519	72,655			173,800	656,028	98,404	5,810	112.9	406,882	661,590	28,232	14.4
Saratoga	185,842	20,600			36,339	624,790	93,719	5,768	108.3	89,791	146,000	6,569	13.7
Schenectady	16,475	2,179			8,117	12,905	1,936	175	73.7	7,387	12,011	635	11.6
Schoharie	215,985	24,324			60,333	602,050	90,308	4,970	121.1	107,825	175,323	8,034	13.4
Schuyler	74,470	13,517			29,496	403,343	60,501	4,069	99.1	40,954	66,591	2,883	14.2
Seneca	679,498	64,942			75,824	2,814,877	422,232	26,432	106.5	58,793	95,597	4,040	14.6
Steuben	2,290,640	81,099			172,387	2,029,096	304,364	20,427	99.3	265,985	432,492	19,765	13.5
Suffolk	1,732,479	26,937			28,872	113,775	17,066	1,145	99.4	0	0	0	0
Sullivan	182,688	8,260			21,787	98,903	14,835	1,005	98.4	35,584	57,860	2,369	15.0
Tioga	455,878	28,866			51,786	564,410	84,662	5,577	101.2	110,536	179,732	7,968	13.9
Tompkins	570,622	32,123			53,473	1,401,671	210,251	12,938	108.3	103,171	167,756	6,726	15.3
Ulster	108,523	23,773			34,981	335,300	50,295	2,982	112.4	32,665	53,113	2,162	15.1
Washington	739,070	69,992			109,370	1,380,143	207,021	12,670	108.9	378,595	615,595	26,519	14.3
Wayne	1,941,168	81,316			102,371	3,151,926	472,789	28,546	110.4	83,848	136,337	5,362	15.6
Wyoming	2,408,098	87,474			122,720	1,866,401	279,960	16,582	112.6	427,847	695,679	27,867	15.4
Yates	434,516	43,557			58,469	1,585,496	237,824	13,212	120.0	62,449	101,542	3,780	16.5

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	D Sorghum grain	P Sorghum grain	Sorghum grain	Yield Sorghum grain	D Sorghum forage	P Sorghum forage	Sorghum forage	Yield Sorghum forage	D Barley	P Barley	Barley	Yield Barley	D Buckwheat
	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre	bushels	lbs	acres	bu/acre	bushels
New York State	0	0	0	0	34,673	84,602	3,504	9.9	888,993	160,019	6	48.0	0
Albany	0	0	0	0	0	0	0	0	0	0	0	0	0
Allegany	0	0	0	0	0	0	0	0	16,038	2,887	390	41.1	0
Broome	0	0	0	0	1,380	3,367	129	10.7	0	0	0	0	0
Cattaraugus	0	0	0	0	715	1,745	95	7.5	4,375	788	93	47.0	0
Cayuga	0	0	0	0	1,586	3,870	209	7.6	89,189	16,054	1,728	51.6	0
Chautauqua	0	0	0	0	985	2,403	127	7.8	8,645	1,556	204	42.4	0
Chemung	0	0	0	0	0	0	0	0	0	0	0	0	0
Chenango	0	0	0	0	1,076	2,625	77	14.0	10,660	1,919	166	64.2	0
Clinton	0	0	0	0	0	0	0	0	0	0	0	0	0
Columbia	0	0	0	0	5,382	13,132	408	13.2	0	0	0	0	0
Cortland	0	0	0	0	0	0	0	0	6,606	1,189	199	33.2	0
Delaware	0	0	0	0	865	2,111	89	9.7	0	0	0	0	0
Dutchess	0	0	0	0	0	0	0	0	0	0	0	0	0
Erie	0	0	0	0	0	0	0	0	12,841	2,311	259	49.6	0
Essex	0	0	0	0	0	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	0	0	0	0	27,922	5,026	313	89.2	0
Fulton	0	0	0	0	0	0	0	0	0	0	0	0	0
Genesee	0	0	0	0	1,539	3,755	178	8.6	60,479	10,886	1,040	58.2	0
Greene	0	0	0	0	0	0	0	0	0	0	0	0	0
Herkimer	0	0	0	0	0	0	0	0	21,936	3,948	429	51.1	0
Jefferson	0	0	0	0	4,466	10,897	524	8.5	129,849	23,373	2,987	43.5	0
Lewis	0	0	0	0	670	1,635	65	10.3	24,588	4,426	439	56.0	0
Livingston	0	0	0	0	545	1,330	62	8.8	62,955	11,332	1,385	45.5	0
Madison	0	0	0	0	2,728	6,656	260	10.5	18,438	3,319	400	46.1	0
Monroe	0	0	0	0	0	0	0	0	6,105	1,099	164	37.2	0
Montgomery	0	0	0	0	314	766	65	4.8	11,570	2,083	325	35.6	0
Niagara	0	0	0	0	0	0	0	0	10,540	1,897	200	52.7	0
Oneida	0	0	0	0	1,006	2,455	137	7.3	11,590	2,086	214	54.2	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	D Sorghum grain	P Sorghum grain	Sorghum grain	Yield Sorghum grain	D Sorghum forage	P Sorghum forage	Sorghum forage	Yield Sorghum forage	D Barley	P Barley	Barley	Yield Barley	D Buckwheat
	bushels	lbs	acres	bu/acre	tons	lbs	acres	tons/acre	bushels	lbs	acres	bu/acre	bushels
Onondaga	0	0	0	0	1,290	3,148	102	12.6	31,414	5,655	664	47.3	0
Ontario	0	0	0	0	1,250	3,050	148	8.4	51,564	9,282	1,005	51.3	0
Orange	0	0	0	0	0	0	0	0	0	0	0	0	0
Orleans	0	0	0	0	0	0	0	0	11,715	2,109	231	50.7	0
Oswego	0	0	0	0	620	1,513	88	7.0	0	0	0	0	0
Otsego	0	0	0	0	1,356	3,309	124	10.9	43,127	7,763	763	56.5	0
Rensselaer	0	0	0	0	0	0	0	0	0	0	0	0	0
St. Lawrence	0	0	0	0	3,744	9,135	333	11.2	0	0	192	0.0	0
Saratoga	0	0	0	0	0	0	0	0	0	0	0	0	0
Schenectady	0	0	0	0	0	0	0	0	0	0	0	0	0
Schoharie	0	0	0	0	154	376	17	9.1	0	0	0	0	0
Schuyler	0	0	0	0	0	0	0	0	7,928	1,427	184	43.1	0
Seneca	0	0	0	0	0	0	0	0	56,913	10,244	1,297	43.9	0
Steuben	0	0	0	0	1,194	2,913	117	10.2	47,733	8,592	989	48.3	0
Suffolk	0	0	0	0	0	0	0	0	0	0	0	0	0
Sullivan	0	0	0	0	0	0	0	0	0	0	0	0	0
Tioga	0	0	0	0	0	0	0	0	0	0	0	0	0
Tompkins	0	0	0	0	0	0	0	0	19,834	3,570	397	50.0	0
Ulster	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington	0	0	0	0	660	1,610	54	12.2	0	0	0	0	0
Wayne	0	0	0	0	508	1,240	49	10.4	17,682	3,183	435	40.6	0
Wyoming	0	0	0	0	0	0	0	0	33,417	6,015	766	43.6	0
Yates	0	0	0	0	640	1,562	47	13.6	33,340	6,001	658	50.7	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	P Buckwheat	Buckwheat	Yield Buckwheat	D Oats	P Oats	Oats	Yield Oats	D Rye	P Rye	Rye	Yield Rye	D Wheat	P Wheat
	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs
New York State	0	0	0	9,557,442	1,051,319	162,600	58.8	147,929	26,627	5,114	28.9	3,599,386	719,877
Albany	0	0	0	20,509	2,256	367	55.9	0	0	0	0	1,792	358
Allegany	0	0	0	189,392	20,833	4,003	47.3	0	0	0	0	2,908	582
Broome	0	0	0	28,337	3,117	720	39.4	0	0	0	0	0	0
Cattaraugus	0	0	0	216,019	23,762	3,839	56.3	0	0	0	0	1,453	291
Cayuga	0	0	0	609,523	67,048	10,580	57.6	11,504	2,071	391	29.4	272,510	54,502
Chautauqua	0	0	0	146,863	16,155	2,586	56.8	2,046	368	0	0	3,975	795
Chemung	0	0	0	50,363	5,540	1,037	48.6	0	0	0	0	6,235	1,247
Chenango	0	0	0	100,502	11,055	1,785	56.3	0	0	0	0	0	0
Clinton	0	0	0	29,282	3,221	594	49.3	0	0	0	0	0	0
Columbia	0	0	0	63,132	6,945	1,394	45.3	1,867	336	74	25.2	19,255	3,851
Cortland	0	0	0	117,117	12,883	2,039	57.4	0	0	0	0	3,480	696
Delaware	0	0	0	5,079	559	87	58.4	0	0	0	0	0	0
Dutchess	0	0	0	79,896	8,789	1,400	57.1	0	0	0	0	2,490	498
Erie	0	0	0	307,534	33,829	4,830	63.7	10,076	1,814	284	35.5	50,267	10,053
Essex	0	0	0	5,989	659	175	34.2	0	0	0	0	8,675	1,735
Franklin	0	0	0	36,715	4,039	741	49.5	6,230	1,121	249	25.0	0	0
Fulton	0	0	0	20,504	2,255	392	52.3	0	0	0	0	0	0
Genesee	0	0	0	370,499	40,755	5,451	68.0	6,295	1,133	164	38.4	388,924	77,785
Greene	0	0	0	3,581	394	63	56.8	0	0	0	0	0	0
Herkimer	0	0	0	141,887	15,608	2,635	53.8	0	0	0	0	4,488	898
Jefferson	0	0	0	291,678	32,085	4,905	59.5	0	0	0	0	21,068	4,214
Lewis	0	0	0	108,042	11,885	2,362	45.7	0	0	0	0	2,250	450
Livingston	0	0	0	484,536	53,299	7,909	61.3	3,056	550	134	22.8	466,779	93,356
Madison	0	0	0	413,003	45,430	6,242	66.2	0	0	0	0	13,295	2,659
Monroe	0	0	0	354,910	39,040	5,339	66.5	0	0	0	0	332,636	66,527
Montgomery	0	0	0	145,562	16,012	2,715	53.6	0	0	0	0	16,910	3,382
Niagara	0	0	0	344,676	37,914	5,666	60.8	0	0	0	0	193,588	38,718
Oneida	0	0	0	366,348	40,298	6,150	59.6	0	0	0	0	63,073	12,615

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	P Buckwheat	Buckwheat	Yield Buckwheat	D Oats	P Oats	Oats	Yield Oats	D Rye	P Rye	Rye	Yield Rye	D Wheat	P Wheat
	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs	acres	bu/acre	bushels	lbs
Onondaga	0	0	0	428,821	47,170	7,057	60.8	4,180	752	168	24.9	129,334	25,867
Ontario	0	0	0	494,010	54,341	8,665	57.0	10,870	1,957	304	35.8	407,055	81,411
Orange	0	0	0	7,686	845	140	54.9	2,990	538	88	34.0	0	0
Orleans	0	0	0	288,150	31,697	3,789	76.0	0	0	0	0	241,635	48,327
Oswego	0	0	0	50,784	5,586	897	56.6	0	0	0	0	5,610	1,122
Otsego	0	0	0	160,609	17,667	3,062	52.5	0	0	0	0	0	0
Rensselaer	0	0	0	42,773	4,705	767	55.8	2,324	418	89	26.1	9,781	1,956
St. Lawrence	0	0	0	101,683	11,185	1,856	54.8	0	0	0	0	8,750	1,750
Saratoga	0	0	0	42,695	4,696	798	53.5	5,420	976	232	23.4	4,305	861
Schenectady	0	0	0	1,100	121	28	39.3	0	0	0	0	0	0
Schoharie	0	0	0	30,160	3,318	628	48.0	0	0	0	0	0	0
Schuyler	0	0	0	97,161	10,688	2,060	47.2	900	162	17	52.9	26,013	5,203
Seneca	0	0	0	367,381	40,412	6,942	52.9	4,093	737	141	29.0	303,641	60,728
Steuben	0	0	0	1,036,808	114,049	17,047	60.8	384	69	20	19.2	43,524	8,705
Suffolk	0	0	0	8,123	894	194	41.9	55,318	9,957	2,110	26.2	17,592	3,518
Sullivan	0	0	0	0	0	0	0	0	0	0	0	0	0
Tioga	0	0	0	122,371	13,461	2,078	58.9	0	0	0	0	0	0
Tompkins	0	0	0	204,971	22,547	3,500	58.6	3,325	599	102	32.6	68,465	13,693
Ulster	0	0	0	0	0	0	0	0	0	0	0	8,335	1,667
Washington	0	0	0	43,609	4,797	767	56.9	2,678	482	89	30.1	11,753	2,351
Wayne	0	0	0	323,187	35,551	5,077	63.7	2,699	486	84	32.1	120,895	24,179
Wyoming	0	0	0	469,155	51,607	7,556	62.1	5,545	998	227	24.4	124,561	24,912
Yates	0	0	0	184,727	20,320	3,686	50.1	6,129	1,103	147	41.7	192,086	38,417

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	Wheat	Yield Wheat	D Soy	P Soy	Soy	Yield Soy	D Potatoes	P Potatoes	Potatoes	Yield Potatoes	D Dry beans	P Dry beans	Dry beans
	acres	bu/acre	bushels	lbs	acres	bu/acre	cwt	lbs	acres	cwt/acre	cwt	lbs	acres
New York State	85,819	41.9	904,651	325,674	23,967	37.7	8,379,527	1,438	33,298	251.7	568,925	278,773	36,204
Albany	82	21.9	0	0	0	0	0	0	0	0	0	0	0
Allegany	80	36.4	0	0	0	0	0	0	0	0	0	0	0
Broome	0	0	0	0	0	0	1,082	0	11	98.4	0	0	0
Cattaraugus	43	33.8	0	0	0	0	0	0	68	0.0	0	0	0
Cayuga	6,701	40.7	80,923	29,132	2,237	36.2	24,180	134	158	153.0	39,088	19,153	2,514
Chautauqua	105	37.9	0	0	0	0	2,701	0	23	117.4	0	0	0
Chemung	128	48.7	0	0	0	0	2,660	0	13	204.6	0	0	0
Chenango	0	0	0	0	0	0	950	0	7	135.7	0	0	0
Clinton	0	0	0	0	0	0	37,760	0	203	186.0	0	0	0
Columbia	528	36.5	0	0	0	0	0	0	0	0	0	0	0
Cortland	163	21.3	0	0	0	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0	0	0	0	0	0
Dutchess	77	32.3	0	0	0	0	0	0	36	0.0	0	0	0
Erie	1,291	38.9	3,003	1,081	119	25.2	195,995	7	878	223.2	8,850	4,337	492
Essex	272	31.9	0	0	0	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	0	0	260,505	0	1,018	255.9	0	0	0
Fulton	0	0	0	0	0	0	0	0	0	0	0	0	0
Genesee	8,441	46.1	13,387	4,819	330	40.6	433,116	20	1,748	247.8	90,189	44,193	5,437
Greene	0	0	0	0	0	0	0	0	0	0	0	0	0
Herkimer	117	38.4	0	0	0	0	0	710	0	2	355.0	0	0
Jefferson	552	38.2	0	0	0	0	0	0	0	0	0	0	0
Lewis	53	42.5	0	0	0	0	0	0	0	0	0	0	0
Livingston	10,731	43.5	26,144	9,412	845	30.9	410,274	51	1,615	254.0	111,583	54,676	6,869
Madison	449	29.6	0	0	0	0	88,940	0	492	180.8	0	0	0
Monroe	8,133	40.9	25,795	9,286	684	37.7	155,885	41	627	248.6	123,958	60,739	7,402
Montgomery	363	46.6	22,841	8,223	538	42.5	6,425	32	29	221.6	0	0	0
Niagara	4,978	38.9	118,414	42,629	3,151	37.6	9,891	189	53	186.6	2,718	1,332	175
Oneida	1,376	45.8	0	0	0	0	220,282	0	652	337.9	0	0	0

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	Wheat	Yield Wheat	D Soy	P Soy	Soy	Yield Soy	D Potatoes	P Potatoes	Potatoes	Yield Potatoes	D Dry beans	P Dry beans	Dry beans
	acres	bu/acre	bushels	lbs	acres	bu/acre	cwt	lbs	acres	cwt/acre	cwt	lbs	acres
Onondaga	3,175	40.7	0	0	0	0	13,752	0	51	269.6	8,520	4,175	587
Ontario	9,385	43.4	49,563	17,843	1,270	39.0	0	76	0	0	85,691	41,989	6,064
Orange	0	0	0	0	0	0	32,188	0	168	191.6	0	0	0
Orleans	5,608	43.1	185,673	66,842	4,834	38.4	245,796	290	1,255	195.9	20,152	9,874	1,707
Oswego	185	30.3	0	0	0	0	181,030	0	663	273.0	0	0	0
Otsego	0	0	1,180	425	40	29.5	0	2	0	0	0	0	0
Rensselaer	245	39.9	0	0	0	0	1,677	0	12	139.8	0	0	0
St. Lawrence	321	27.3	0	0	0	0	2,057	0	21	98.0	0	0	0
Saratoga	114	37.8	0	0	0	0	0	0	0	0	0	0	0
Schenectady	0	0	0	0	0	0	0	0	0	0	0	0	0
Schoharie	0	0	0	0	0	0	0	0	0	0	0	0	0
Schuyler	755	34.5	0	0	0	0	0	0	0	0	10,474	5,132	766
Seneca	7,372	41.2	263,210	94,756	6,856	38.4	0	411	0	0	5,483	2,687	500
Steuben	1,324	32.9	2,400	864	100	24.0	1,490,372	6	5,654	263.6	6,755	3,310	453
Suffolk	480	36.7	0	0	0	0	2,605,446	0	10,358	251.5	0	0	0
Sullivan	0	0	0	0	0	0	0	0	0	0	0	0	0
Tioga	0	0	0	0	0	0	0	0	4	0.0	0	0	0
Tompkins	1,570	43.6	14,642	5,271	408	35.9	2,400	24	14	171.4	1,792	878	156
Ulster	183	45.5	0	0	0	0	0	0	0	0	0	0	0
Washington	301	39.0	0	0	0	0	29,600	0	152	194.7	0	0	0
Wayne	3,105	38.9	90,121	32,444	2,366	38.1	733,498	142	2,978	246.3	28,275	13,855	1,588
Wyoming	2,759	45.1	0	0	0	0	1,190,355	0	4,335	274.6	9,603	4,705	592
Yates	4,274	44.9	7,355	2,648	189	38.9	0	11	0	0	15,794	7,739	902

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	Yield Dry beans	D Alfalfa	P Alfalfa	Alfalfa	Yield Alfalfa	D Haylage	P Haylage	Haylage	Yield Haylage	D Other hay	P Other hay	Other hay	Yield Other hay
	cwt/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
New York State	15.7	2,339,801	11,043,861	885,733	2.6	2,762,721	2,465,728	480,012	5.8	1,434,629	9,411,166	774,319	1.9
Albany	0	21,333	100,692	8,923	2.4	7,722	6,892	1,715	4.5	13,824	90,685	9,803	1.4
Allegany	0	39,767	187,700	16,588	2.4	52,717	47,050	9,708	5.4	44,045	288,935	24,865	1.8
Broome	0	20,892	98,610	7,937	2.6	32,317	28,843	5,752	5.6	28,318	185,766	16,925	1.7
Cattaraugus	0	56,630	267,294	18,818	3.0	68,463	61,103	12,326	5.6	59,235	388,582	28,073	2.1
Cayuga	15.5	91,255	430,724	34,164	2.7	93,307	83,276	13,966	6.7	12,971	85,090	6,720	1.9
Chautauqua	0	43,977	207,571	14,684	3.0	102,386	91,380	17,546	5.8	84,154	552,050	39,060	2.2
Chemung	0	26,577	125,443	8,000	3.3	9,976	8,904	1,772	5.6	10,405	68,257	6,342	1.6
Chenango	0	57,697	272,330	22,844	2.5	80,068	71,461	14,101	5.7	44,166	289,729	23,884	1.8
Clinton	0	49,893	235,495	18,024	2.8	54,319	48,480	8,561	6.3	33,615	220,514	16,287	2.1
Columbia	0	43,256	204,168	16,778	2.6	58,870	52,541	9,678	6.1	15,599	102,329	8,508	1.8
Cortland	0	42,166	199,024	16,550	2.5	66,516	59,366	12,360	5.4	25,408	166,676	11,905	2.1
Delaware	0	42,914	202,554	15,982	2.7	54,407	48,558	9,471	5.7	62,760	411,706	31,914	2.0
Dutchess	0	34,506	162,868	14,218	2.4	23,598	21,061	4,548	5.2	15,208	99,764	8,402	1.8
Erie	18.0	43,075	203,314	15,866	2.7	61,093	54,526	11,308	5.4	41,632	273,106	20,500	2.0
Essex	0	14,693	69,351	6,329	2.3	16,525	14,749	3,353	4.9	10,190	66,846	5,618	1.8
Franklin	0	41,021	193,619	15,131	2.7	45,009	40,171	8,197	5.5	53,820	353,059	26,561	2.0
Fulton	0	10,070	47,530	4,121	2.4	19,751	17,628	3,650	5.4	8,729	57,262	4,725	1.8
Genesee	16.6	62,361	294,344	20,402	3.1	90,208	80,511	11,647	7.7	6,248	40,987	2,867	2.2
Greene	0	11,200	52,864	5,001	2.2	3,550	3,168	766	4.6	12,062	79,127	7,003	1.7
Herkimer	0	63,287	298,715	27,556	2.3	83,466	74,493	14,548	5.7	29,962	196,551	15,752	1.9
Jefferson	0	89,415	422,039	36,683	2.4	144,400	128,877	28,776	5.0	83,066	544,913	50,667	1.6
Lewis	0	91,388	431,351	33,902	2.7	86,467	77,172	15,775	5.5	43,213	283,477	21,635	2.0
Livingston	16.2	78,143	368,835	25,990	3.0	63,463	56,641	9,984	6.4	10,845	71,143	6,224	1.7
Madison	0	101,870	480,826	37,234	2.7	86,204	76,937	16,126	5.3	17,750	116,440	9,027	2.0
Monroe	16.7	36,834	173,856	12,746	2.9	19,589	17,483	3,172	6.2	4,004	26,266	2,300	1.7
Montgomery	0	71,010	335,167	30,989	2.3	70,682	63,084	13,169	5.4	31,066	203,793	17,107	1.8
Niagara	15.5	35,022	165,304	13,481	2.6	29,835	26,628	5,572	5.4	22,011	144,392	11,148	2.0
Oneida	0	116,823	551,405	41,698	2.8	87,251	77,872	17,139	5.1	42,541	279,069	23,241	1.8

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	Yield Dr beans	D Alfalfa	P Alfalfa	Alfalfa	Yield Alfalfa	D Haylage	P Haylage	Haylage	Yield Haylage	D Other hay	P Other hay	Other hay	Yield Other hay
	cwt/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
Onondaga	14.5	69,260	326,907	25,286	2.7	68,047	60,732	11,215	6.1	7,941	52,093	3,912	2.0
Ontario	14.1	54,465	257,075	20,067	2.7	45,333	40,460	7,336	6.2	9,497	62,300	5,101	1.9
Orange	0	29,313	138,357	10,764	2.7	28,169	25,141	5,041	5.6	19,121	125,434	11,019	1.7
Orleans	11.8	27,767	131,060	9,107	3.0	22,651	20,216	3,651	6.2	5,619	36,861	2,750	2.0
Oswego	0	22,653	106,922	8,372	2.7	22,629	20,196	4,385	5.2	26,486	173,748	14,291	1.9
Otsego	0	75,564	356,662	31,394	2.4	100,057	89,301	19,144	5.2	46,984	308,215	24,777	1.9
Rensselaer	0	32,071	151,375	12,871	2.5	31,428	28,049	5,818	5.4	14,079	92,358	10,804	1.3
St. Lawrence	0	81,353	383,986	32,782	2.5	138,212	123,354	25,251	5.5	138,234	906,815	75,489	1.8
Saratoga	0	28,576	134,879	10,885	2.6	26,382	23,546	4,751	5.6	9,648	63,291	5,985	1.6
Schenectady	0	2,078	9,808	1,000	2.1	2,233	1,993	594	3.8	5,263	34,525	4,021	1.3
Schoharie	0	49,535	233,805	20,679	2.4	50,590	45,152	9,800	5.2	26,455	173,545	14,104	1.9
Schuyler	13.7	17,547	82,822	7,862	2.2	6,985	6,234	1,536	4.5	11,023	72,311	6,608	1.7
Seneca	11.0	27,399	129,323	9,618	2.8	22,966	20,497	3,512	6.5	11,706	76,791	5,969	2.0
Steuben	14.9	90,211	425,796	37,706	2.4	95,010	84,796	17,763	5.3	79,143	519,178	45,392	1.7
Suffolk	0	1,034	4,880	365	2.8	0	0	0	0	700	4,592	291	2.4
Sullivan	0	4,812	22,713	1,673	2.9	9,405	8,394	1,702	5.5	28,576	187,459	13,118	2.2
Tioga	0	30,321	143,115	13,106	2.3	46,415	41,425	8,578	5.4	23,663	155,229	14,503	1.6
Tompkins	11.5	30,242	142,742	11,540	2.6	48,450	43,242	7,423	6.5	14,715	96,530	8,132	1.8
Ulster	0	10,791	50,934	3,844	2.8	8,820	7,872	1,596	5.5	12,280	80,557	7,848	1.6
Washington	0	67,672	319,412	25,615	2.6	142,836	127,481	25,424	5.6	33,412	219,183	20,216	1.7
Wayne	17.8	36,682	173,139	12,807	2.9	24,839	22,169	3,927	6.3	6,175	40,508	3,455	1.8
Wyoming	16.2	83,826	395,659	26,467	3.2	190,857	170,340	24,141	7.9	23,020	151,011	11,284	2.0
Yates	17.5	26,706	126,052	9,818	2.7	18,248	16,286	2,738	6.7	10,626	69,707	6,353	1.7

Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	D Small grain hay	P Small grain hay	Small grain hay	Yield Small grain hay	D Wild hay	P Wild hay	Wild hay	Yield Wild hay
	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
New York State	56,450	252,896	36,025	1.6	106,390	697,918	81,667	1.3
Albany	381	1,707	235	1.6	1,790	11,742	1,596	1.1
Allegany	1,213	5,434	700	1.7	2,086	13,684	2,200	0.9
Broome	801	3,588	533	1.5	2,770	18,171	2,521	1.1
Cattaraugus	2,730	12,230	1,534	1.8	3,274	21,477	2,557	1.3
Cayuga	3,668	16,433	2,204	1.7	479	3,142	365	1.3
Chautauqua	2,498	11,191	1,433	1.7	5,744	37,681	3,329	1.7
Chemung	249	1,116	112	2.2	673	4,415	563	1.2
Chenango	956	4,283	924	1.0	4,332	28,418	3,336	1.3
Clinton	630	2,822	331	1.9	2,638	17,305	1,714	1.5
Columbia	1,246	5,582	891	1.4	1,146	7,518	778	1.5
Cortland	652	2,921	454	1.4	1,047	6,868	891	1.2
Delaware	931	4,171	577	1.6	9,530	62,517	5,506	1.7
Dutchess	897	4,019	452	2.0	1,439	9,440	1,055	1.4
Erie	1,709	7,656	931	1.8	2,403	15,764	1,655	1.5
Essex	0	0	0	0	707	4,638	682	1.0
Franklin	953	4,269	542	1.8	1,927	12,641	1,903	1.0
Fulton	84	376	77	1.1	554	3,634	674	0.8
Genesee	650	2,912	854	0.8	190	1,246	175	1.1
Greene	192	860	148	1.3	1,806	11,847	1,771	1.0
Herkimer	1,244	5,573	691	1.8	1,959	12,851	1,494	1.3
Jefferson	4,047	18,131	2,217	1.8	4,221	27,690	2,659	1.6
Lewis	909	4,072	582	1.6	3,355	22,009	2,173	1.5
Livingston	1,407	6,303	618	2.3	1,007	6,606	596	1.7
Madison	1,305	5,846	964	1.4	1,130	7,413	971	1.2
Monroe	0	0	697	0.0	0	0	315	0.0
Montgomery	1,100	4,928	856	1.3	2,213	14,517	1,963	1.1
Niagara	1,564	7,007	1,098	1.4	260	1,706	318	0.8
Oneida	1,665	7,459	1,096	1.5	3,567	23,400	3,077	1.2

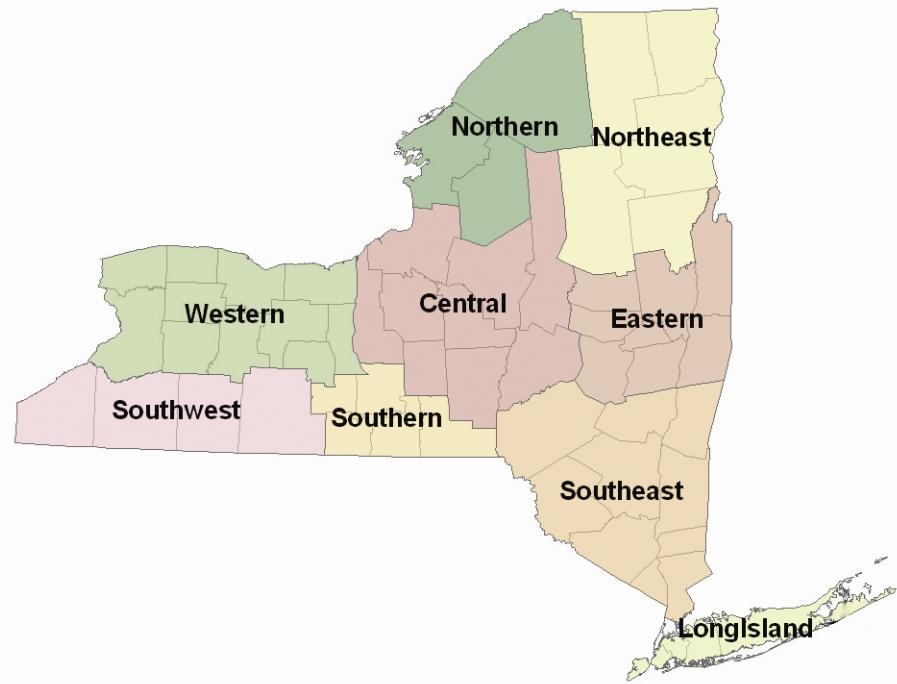
Statewide & County-based Phosphorus Balances for New York State. CSS E06-3. September 2006.

1987

	D Small grain hay	P Small grain hay	Small grain hay	Yield Small grain hay	D Wild hay	P Wild hay	Wild hay	Yield Wild hay
	tons	lbs	acres	tons/acre	tons	lbs	acres	tons/acre
Onondaga	1,304	5,842	1,164	1.1	281	1,843	296	0.9
Ontario	1,205	5,398	807	1.5	560	3,674	480	1.2
Orange	295	1,322	288	1.0	2,413	15,829	2,058	1.2
Orleans	183	820	133	1.4	435	2,854	360	1.2
Oswego	1,294	5,797	757	1.7	3,772	24,744	2,311	1.6
Otsego	947	4,243	595	1.6	3,495	22,927	3,498	1.0
Rensselaer	378	1,693	215	1.8	1,432	9,394	1,242	1.2
St. Lawrence	4,918	22,033	2,581	1.9	8,599	56,409	6,117	1.4
Saratoga	1,365	6,115	651	2.1	1,039	6,816	941	1.1
Schenectady	63	282	40	1.6	933	6,120	1,156	0.8
Schoharie	947	4,243	469	2.0	3,585	23,518	2,655	1.4
Schuyler	327	1,465	253	1.3	694	4,553	685	1.0
Seneca	632	2,831	652	1.0	392	2,572	277	1.4
Steuben	3,234	14,488	2,128	1.5	4,337	28,451	3,721	1.2
Suffolk	229	1,026	0	0	0	0	0	0
Sullivan	337	1,510	175	1.9	2,826	18,539	2,477	1.1
Tioga	628	2,813	466	1.3	1,395	9,151	1,278	1.1
Tompkins	481	2,155	316	1.5	654	4,290	603	1.1
Ulster	175	784	104	1.7	1,878	12,320	1,438	1.3
Washington	1,358	6,084	598	2.3	3,125	20,500	1,657	1.9
Wayne	313	1,402	266	1.2	537	3,523	388	1.4
Wyoming	1,816	8,136	1,294	1.4	1,045	6,855	547	1.9
Yates	340	1,523	322	1.1	716	4,697	645	1.1

Appendix H: Additional Maps

Natural Resources Conservation Service regions



New York State county names



Appendix I: Phosphorus Balance for Pennsylvania Counties (Mid-Atlantic)

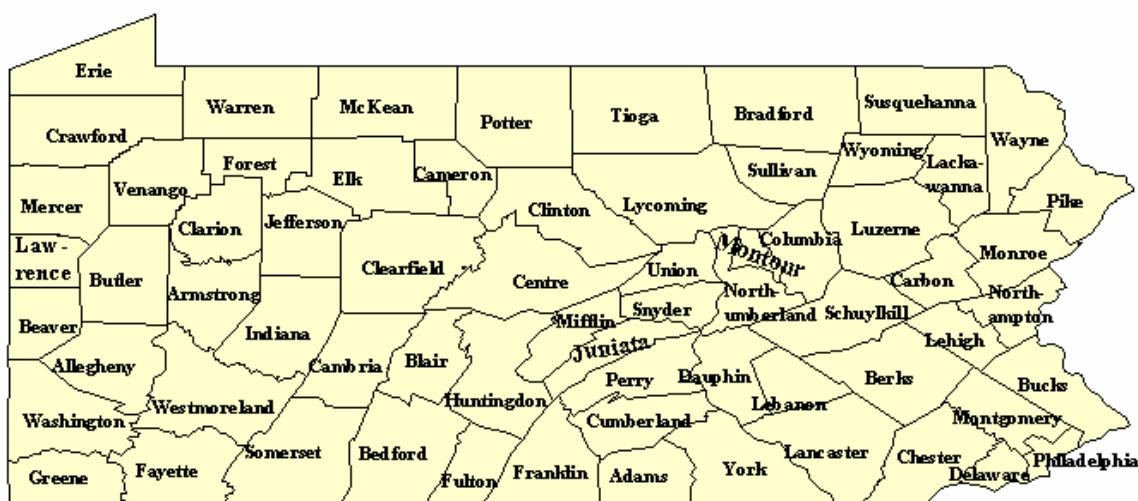
From: Mid-Atlantic Water Quality Program (http://mawaterquality.agecon.vt.edu/PA/scale_menu.html).

	P Balance lbs†	P Balance lbs/acre	Acres Cropland acre‡	Manure lbs†	Fertilizer lbs†	Crop lbs†
Adams	4,783,920	46.42	103,048	2,200,620	3,864,060	1,280,740
Allegheny	347,720	33.90	10,256	49,000	419,680	120,940
Armstrong	-50,220	-0.76	65,710	326,760	360,760	737,740
Beaver	16,420	0.58	28,297	230,080	109,580	323,240
Bedford	618,740	6.59	93,860	1,222,320	695,720	1,299,300
Berks	3,090,760	19.23	160,688	3,419,820	1,799,560	2,128,600
Blair	804,680	14.06	57,221	1,102,020	601,980	899,320
Bradford	754,160	5.00	150,883	2,040,460	555,120	1,841,420
Bucks	996,820	22.49	44,332	229,280	1,293,680	526,120
Butler	122,760	1.65	74,435	451,700	628,660	957,600
Cambria	291,260	6.18	47,127	283,880	567,340	559,960
Cameron	80	0.11	698	2,800	180	2,880
Carbon	123,680	16.34	7,571	26,300	173,800	76,420
Centre	497,660	6.07	81,933	920,520	711,460	1,134,300
Chester	1,097,300	10.37	105,858	1,765,080	1,008,020	1,675,800
Clarion	-47,900	-0.94	51,106	364,920	244,000	656,820
Clearfield	680,740	24.43	27,865	163,100	816,400	298,760
Clinton	259,520	8.87	29,266	464,660	204,440	409,580
Columbia	82,960	1.37	60,344	358,100	337,860	612,980
Crawford	509,840	4.59	111,189	1,012,620	1,116,520	1,619,280
Cumberland	1,207,560	11.55	104,534	1,593,540	1,030,500	1,416,480
Dauphin	1,095,400	17.20	63,673	1,005,980	856,800	767,360
Delaware	159,140	683.00	233	2,460	156,680	0
Elk	-29,120	-3.24	8,997	45,920	28,720	103,780
Erie	555,020	7.49	74,117	577,360	1,008,580	1,030,920
Fayette	30,260	0.57	53,212	378,960	247,920	596,600
Forest	117,620	60.82	1,934	5,940	120,880	9,180
Franklin	3,968,520	22.34	177,671	4,701,840	1,825,640	2,558,960
Fulton	121,380	2.74	44,281	457,720	204,140	540,460
Greene	-89,180	-2.19	40,721	233,660	88,300	411,160
Huntingdon	328,920	4.95	66,488	856,360	362,400	889,840
Indiana	586,140	8.74	67,052	561,500	853,080	828,440
Jefferson	10,920	0.27	40,631	226,480	288,700	504,240
Juniata	1,293,220	27.10	47,722	1,408,080	461,640	576,500
Lackawanna	71,160	4.63	15,380	104,560	128,240	161,620
Lancaster	10,595,040	32.90	322,071	14,180,480	2,038,240	5,623,680
Lawrence	123,640	2.52	49,134	492,500	310,180	679,040
Lebanon	2,672,120	25.96	102,922	3,693,100	457,080	1,478,060
Lehigh	60,200	0.90	66,907	118,580	693,840	752,200
Luzerne	90,220	3.42	26,382	126,580	325,380	361,720
Lycoming	573,640	7.75	73,985	732,340	737,240	895,920
McKean	-4,820	-0.38	12,552	87,700	72,240	164,780
Mercer	851,220	9.27	91,810	821,020	1,411,420	1,381,200
Mifflin	1,508,880	27.92	54,051	1,134,900	1,275,160	901,180

	P Balance lbs†	P Balance lbs/acre	Acres Cropland acre‡	Manure lbs†	Fertilizer lbs†	Crop lbs†
Monroe	94,720	7.59	12,477	32,100	159,160	96,520
Montgomery	574,720	23.40	24,559	218,140	615,600	259,000
Montour	1,124,980	54.04	20,817	194,700	1,182,680	252,400
Northampton	154,080	2.60	59,354	199,120	639,120	684,140
Northumberland	614,760	7.57	81,246	1,083,700	462,260	931,180
Perry	668,400	9.22	72,484	1,321,240	119,240	772,080
Philadelphia	300,160	0.00	0	0	300,160	0
Pike	12,680	11.33	1,119	12,420	3,000	2,740
Potter	-7,800	-0.24	32,247	383,000	56,240	447,060
Schuylkill	798,860	13.49	59,197	923,540	482,980	607,660
Snyder	967,520	16.04	60,327	1,499,460	181,040	712,960
Somerset	1,332,240	12.72	104,762	1,419,560	1,368,740	1,456,040
Sullivan	24,520	1.85	13,282	145,260	48,020	168,760
Susquehanna	470,980	6.53	72,176	874,600	348,280	751,900
Tioga	4,178,860	43.27	96,581	943,700	4,356,060	1,120,880
Union	780,100	14.51	53,761	1,057,760	426,600	704,260
Venango	-64,100	-2.63	24,413	181,580	92,120	337,800
Warren	48,220	1.67	28,863	343,840	129,900	425,520
Washington	-172,900	-1.82	95,044	649,760	265,240	1,087,900
Wayne	144,000	3.23	44,607	508,340	67,360	431,700
Westmoreland	584,460	7.91	73,921	588,060	924,100	927,680
Wyoming	10,840	0.41	26,138	241,680	78,100	308,940
York	3,147,920	15.68	200,789	2,356,880	3,292,640	2,501,600
Totals	56,666,220	13.57	4,176,311	65,360,040	46,090,460	54,783,840

† To convert from lbs to kg, multiply by 0.454.

‡ To convert from acre to hectare, multiply by 0.405.



Pennsylvania County Map

(From: http://mawaterquality.agecon.vt.edu/PA/county_trends/PActy_map.html)